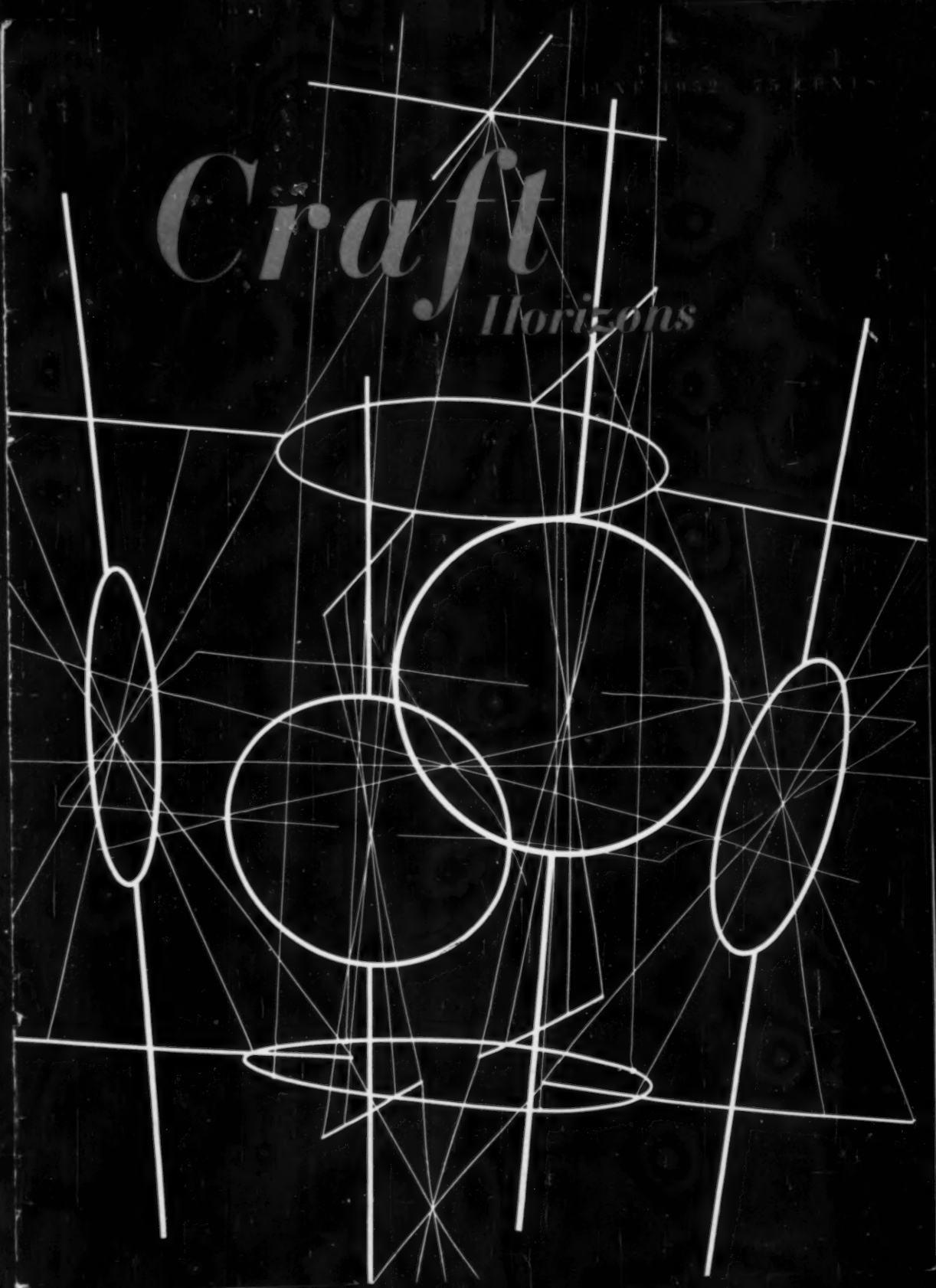
Craft Horizons



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MAY–JUNE, 1952 VOL. XII NO. 3

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Published bi-monthly by Craft Horizons, Inc., 40 East 49th Street, New York 17, Aileen O. Webb, President, Daniel Mebane, Treasurer. Price 75 cents. Four dollars a year. Copyright 1952. Reentered as second class mail matter November 19, 1951, at the Post Office at New York, N.Y., under the Act of March 3, 1879. Printed in U.S.A.

For general reference to Craft Horizons consult the *Art Index* in any public library. Complete copies on microfilm are available to subscribers from University Microfilms, Ann Arbor, Michigan.

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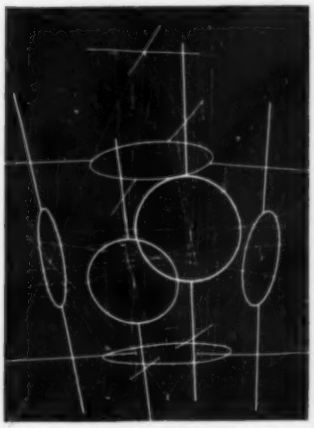

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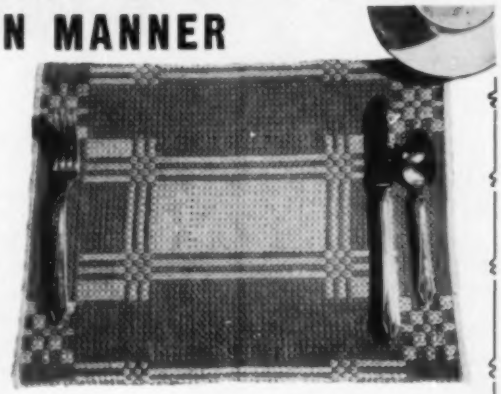

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CRAFTSMEN'S CALENDAR

Current, indefinite. Exhibition, "The Life and Works of Frederick Carder," at the Corning Museum of Glass, Corning, New York.

Current, throughout the year. Good Design, third annual exhibition of home furnishings sponsored by the Museum of Modern Art and the Merchandise Mart, at the Mart, Chicago, Illinois.

Through May 18. Sixteenth Ceramic National, Cincinnati Art Museum, Cincinnati, Ohio.

May 7 through 31. "The Craftsman Loves His Kitchen," an exhibit of handcrafted kitchenware, at the gallery of America House, 32 East 52nd Street, New York City.

May 17 and 18. Fifth Annual Exhibition, Glendale Lapidary and Gem Society, at Civic Auditorium, Glendale, California.

May 18-26. Annual Student Exhibition, Westchester Workshop, Westchester County Center, White Plains, New York.

May 25-June 28. Pottery course, Pond Farm Workshops. Write to: Marguerite Wildenhain, Guerneville, California.

Through June 1. New Design Trends, exhibit of pairs of objects showing changes in design in past twenty years. Museum of Modern Art, 11 West 53rd Street, New York City.

Through June 1. 1952 Rochester-Finger Lakes Exhibition in all media, Memorial Art Gallery, Rochester, New York.

Through May. "National Shrines of Post-Revolutionary America," The Scalamandré Museum of Textiles, 20 West 55th Street, New York City.

Through June 14. Italy at Work, City Art Museum of St. Louis, St. Louis, Missouri.

Through June 14. Third Annual Exhibition of Northwest Ceramics —pottery, ceramic sculpture and enamels by Oregon, Washington, Montana and Idaho craftsmen—at gallery of Oregon Ceramic Studio, 3934 S.W. Corbett Avenue, Portland, Oregon.

June 10-July 16. Courses in beginning and advanced Weaving, Rug Weaving, Woodwork, Pottery, Metal, Jewelry. Pi Beta Phi, University of Tennessee, Gatlinburg, Tennessee.

June 11 through September 5. Third Annual "Young Americans" Competition, gallery at America House, 32 East 52nd Street, New York City.

June. Scalamandré Museum Exhibits: "Contemporary Woven Designs," Buffalo Society of Natural Sciences, Buffalo, New York; "Colonial Shrines of America," The Mint, Charlotte, Virginia.

June through summer. "Summer Fantasies," exhibit of modern prints in fabrics, The Scalamandré Museum of Textiles, 20 West 55th Street, New York City.

June 16-August 8. Summer Session, Colorado Springs Fine Arts Center School, Colorado Springs, Colorado.

June 18-22. Artists & Craftsmen's Spring Fair, sponsored by Council of Ozark Artists and Craftsmen, Springdale, Ark.

June 23-August 2. Summer Session, courses in crafts, Cranbrook Academy of Art, Bloomfield Hills, Michigan. For application forms address Secretary.

June 30-September 5. Fletcher Farm Craft School, sponsored by Society of Vermont Craftsmen, fifth season of classes, in five two-week periods, Proctorsville, Vermont.

July 13 through August 1. The Living Arts, juried exhibition of crafts, architecture and industrial design, sponsored by the Silvermine Guild of Artists and the Society of Connecticut Craftsmen, for state craftsmen, at Silvermine Guild of Artists Galleries, Norwalk, Connecticut. For entry blanks write Ruth Cloyes, 35 Ten-acre Lane, West Hartford, Conn.

July 17-27. International Conference of Craftsmen in Pottery and Textiles, Dartington Hall, Totnes, Devon, England. An exhibition of examples of the best work made in Great Britain during the past 30 years will subsequently visit London and other centers in England and Scotland under the auspices of the Arts Council of Great Britain.

July 21-25. Fifth Annual Craftsmen's Fair of the Southern Highlands, City Auditorium, Asheville, North Carolina.

August 5-9. Craftsman's Fair, sponsored by League of New Hampshire Arts & Crafts, Belknap Recreation Area, Gilford, New Hampshire.

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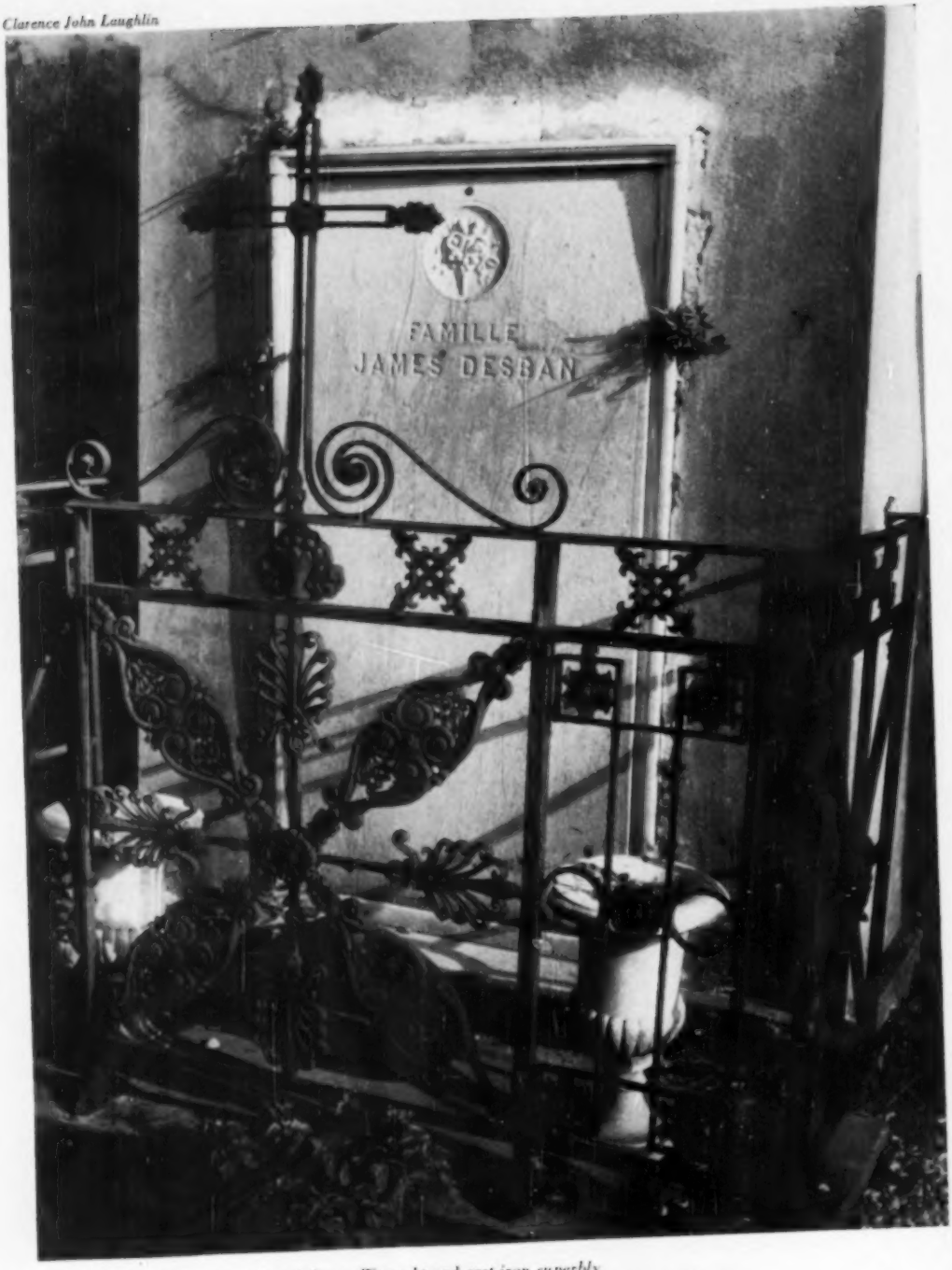


Gate in St. Louis Cemetery, New Orleans. Wrought and cast iron superbly combined; ornaments cast separately, fitted into wrought-iron framework, railings and cross.

the Sunday afternoon Painter

As the world becomes more and more like a city in a state of siege, people are turning to avocations in their leisure hours aware of a lack in their lives which they do not wholly understand. In planning the design and learning the technique of a craft they reap many personal benefits and at the same time set in motion a chain of far-reaching reactions.

First of all the amateur practitioner of the arts gains perspective, adding a new dimension to his mental and spiritual landscape. He experiences sharp delight in the discovery that he can manipulate line and color, form, texture, balance, composition, light and shade. His intuitive sense that there is meaning and beauty in the universe for those who will pursue the quest spurs him to further exploration of this strange country. As his adventure proceeds, he becomes more perceptively aware of the artist as a member of the community and recognizes his role as the bearer and preserver of those myths and patterns through which men reassert their faith in life. In addition to his former sensuous pleasure in a finished work of art, he begins to understand what went into its creation and how through a vastly complex series of mutations the dynamic opposites of our unconscious inheritance are reconciled to form a harmonious whole.

The Sunday afternoon painter who has enjoyed the first fine fury of creating will look at his watch and, before the light fails, streak off to the nearest museum to stand with new awe before a familiar masterpiece. The apprentice in pottery or weaving, the amateur who designs jewelry or carves wood experiences the same heightened interest in the products of his chosen craft. He handles with fresh excitement the work of master craftsmen and is a discriminating buyer, choosing for his home treasures he might easily have missed before. He responds to the best workmanship and the most daring concepts.

The phrase "Sunday afternoon painter" was first applied to Henri Julien Rousseau, *le douanier* who took up painting as a pastime. His story is the exception for he went on to become recognized as a professional of naive and unselfconscious distinction.

But the frank amateur who does not aspire beyond that status makes a significant contribution to the creative work of his times. Art will, in concrete achievement, reach only to those heights which contemporary society demands of its artists. The amateur, by freeing some of his own creative energies and thereby himself glimpsing the inexhaustible possibilities of the imagination, gains a respect for the professional which has profound implications. He becomes his protector, in the medieval sense. He wishes to make a world that has room for the artist, that will nurture his gift and value his endowments. He believes that salvation—possibly survival—is the issue. For daring greatly, he has looked upon the source from which flow the creative springs and he knows that these are the life-giving springs of man's hope and affirmation.

M.B.D.

BY CLARENCE JOHN LAUGHLIN

Galleries of old New Orleans

Fantasy and function fling a delicate fabric of ironwork across a heat-oppressed city

Clarence John Laughlin

Wrought-iron fan, Brulatour House, built around 1816; called gardes de frises, *its delicate spurs bar intruders.*

If one were to define the distinguishing character of the best of New Orleans ironwork, it might be said to combine a unique fantasy—subtly different from its French antecedents—with a curious and compelling naiveté. This fusion of qualities was not, of course, confined to iron forms, but appeared in the finest New Orleans stonework as well as in certain examples of its architecture. This special quality sprang from the often sinister nature of its climate, its precarious location and the character of its inhabitants, which was largely Latin.

A rich port, Nineteenth Century New Orleans preserved its cultural lifeline with its French and Spanish origins. But it was surrounded by swamps, threatened with pestilence and holding fast, with its earthen levees, against the encroaching pressure of the great Mississippi River. The very floor of New Orleans was water-logged, parts of it below sea-level. Fierce sun and heavy rainfall beat down upon it, stimulating plant and insect life to a violence and abundance exceeded only in the deepest tropics. Time and again the plagues came, turning one of the most beautiful cities of its day into the deadliest.

The stringencies of such an environment—combined with the great wealth of the city—inevitably produced its effect upon a population which was predominantly French. New Orleans became pleasure-loving and gay to a degree unmatched by other American cities—but with an undercurrent of the macabre. Seemingly spurred on by its physical isolation from the rest of the United States, early New Orleans fervently encouraged the arts of music and of the stage. And it gave birth, in time, to an architecture more indigenous in feeling than anything else to be found in the entire South. This specialized local character extended itself into the ironwork forms which began to appear with great profusion, in a happy combination of fantasy and function.

The need for freely circulating air and escape from the hot sun undoubtedly gave rise to the amazing iron galleries of New Orleans. Their development can be divided into three phases: (1) The wrought iron of the period from 1800 to 1825; (2) an overlapping period

Cast-iron galleries, Labranche Mansion on Royal Street, clothe structure in lacy fabric of metal, repeated in shadow of oak-leaf, acorn, crestings, fringes.

when both wrought and cast iron were used in the same balcony or railing—usually with the structural portions wrought and the individual ornaments cast; and (3) the cast iron period from about 1835 to 1860. By 1840 cast iron was predominant, because of its lower cost and because of the variety of design to which it lent itself.

Most of the wrought iron left in New Orleans must have been made locally, although it shows a European influence. Names of some early ironworkers come down to us—Jean and Pierre Lafitte, Devault, Malus, Urtubise, Pelaine and Moret. These craftsmen were quite possibly trained in France. Their methods, technically speaking, seem not to differ greatly from those in common use elsewhere. This also is true of the cast iron that came later. The difference was in feeling rather than procedure.

Little, if any, of the wrought iron still extant seems to have been brought from France or Spain. Yet the spirit of the wrought-iron forms is definitely closer to its European prototypes than the cast iron of a later date. For instance, French designs found on the balconies of Palma de Mallorca come quite close in pattern to certain wrought-iron railings on the Cabildo in the Vieux Carré of New Orleans.

Practically all of the wrought-iron balconies, though beautiful and graceful, were roofless and were, for that reason, less functional than the cast-iron galleries that appeared later. Of course wrought iron found a number of other early uses—mostly in hinges and brackets; also in hooks wherein rested the two-sided cypress-wood troughs, used to carry off the heavy rainfall before sheet metal gutters came into existence.

Most people think of the basic difference between

Cast-iron gallery, floral and fruit-cluster design, in the Faubourg Ste. Marie, circa 1860. Magic of lost years limned in Dumaine Street vista, left, rooms opening on galleries. Below, cast-iron railing and foundation ventilator—needed in that climate—of exquisite design.

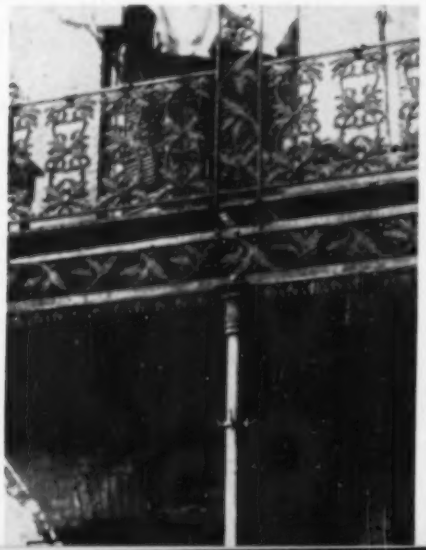
wrought and cast iron as that of iron worked by hand and iron that is cast. Actually, the basic difference is one of composition, their relative proportion of carbon content. Wrought iron has .04 percent; cast iron, 2 to 6 percent, steel .2 to .6 percent. Thus wrought iron has the lowest carbon content of all, a fact which gives it its distinguishing property of malleability.

In early days, the craftsman in wrought iron had to work from an assortment of crudely-shaped, miscellaneous pieces which he had to beat and shape into basic forms before starting his design. Today, wrought iron comes in a large variety of stock bars, rods, sheets and plates. The wrought iron worker uses a number of specialized tools: hammers (ball-peen, cross-peen, straight-peen, fullers and swages); several kinds of tongs; a heading tool; punches and chisels (hot and cold); several kinds of twisting tools. With these and an anvil, forge and a water trough, he pulls, twists and hammers his iron into shape. Wrought ironwork which is light in character can be done while the iron is cold; larger and heavier jobs must be done with the iron hot. The more the surface of wrought iron is beaten, the denser its skin structure becomes, hence the more resistant to rust. But the more it is worked, the harder and more difficult it becomes. However, it can be brought back to its original malleability by annealing, that is, heating and then cooling it slowly.

Cast iron, on the other hand, is extremely brittle and hard. It cannot be worked because it fractures: it must be poured into molds. These molds are made by shaping or carving a piece of wood or plaster into the form of the desired pattern; packing sand around it, and then removing the wood or plaster model. If the iron casting does not have a flat back, a separate mold must be made for the reverse side of the casting. The sand, incidentally, is contained in two wooden forms, the lower of which (holding the indented sand for the "face" of the pattern) is known as the "drag"; while the upper (containing the reverse side of the pattern) is known as the "cope." Sometimes the sand molds are baked to give the iron a more precise edge when poured. Wrought iron can also be poured into molds and cast. But this, naturally, destroys the intrinsic quality of the material which is brought out by the actual working alone.

It is fairly easy to distinguish between wrought and cast iron. In general, if the forms are such as could be created by bending, twisting or pulling, the work is of wrought iron. If the forms do not appear thus—and especially if they have a definite front and reverse side, then they are of cast iron. Also wrought and cast iron have a different "edge" quality. This is hard to describe, but a good example of the difference between them and of the special capabilities of each is discernible in the beautiful cemetery gate on page 6. This gate, which dates back to the 1840s, is the only instance of this particular combination of patterns ever found by the writer. The cross and the structural framework and railing are of wrought

Graceful, elegant and airy is a two-tiered, roofed, cast-iron gallery on a Conti Street mansion, Vieux Carré.



iron. The ornaments, including the four panels and anthemion spindles and the pendants on the arms of the cross, are of cast iron, made separately and fitted into the gate. The contrast of light and heavy elements gives it real distinction; the designs are such as to be entirely consistent with the inherent potentialities of each one of these distinctive materials.

In the latter 1800s, New Orleans had a few cast iron foundries of its own, among them A. C. Timke, Shakespeare and Leeds. But most of the cast iron of the day originated in Philadelphia. In fact, the foundry of Wood & Perot there seems to have been distributing it throughout the East and the South—New Orleans, Mobile, St. Francisville, Natchez and Vicksburg. They even had a New Orleans branch, so great was the demand and so influential the taste of its wealthy New Orleans patrons. Very few examples signed by Wood & Perot are to be found there now but others, unsigned, can be traced to them by identical signed pieces elsewhere, especially in Natchez and Vicksburg. The disappearance of the signatures in New Orleans is probably due to the higher humidity and resultant rust in lower Louisiana. But many of the really fine New Orleans patterns (presumably by Wood & Perot) have no duplicates, either in the Mississippi valley or elsewhere.

Long and patient research seems to establish the likelihood that the differences which distinguish the best of New Orleans ironwork from that of other old cities in this

Lost balcony, Faubourg Marigny, circa 1820. Fine wrought-iron railing, with monogram in exquisitely curved panel.

Left, detail of typical cast-iron gallery shows structural connections of railing, standard, fringe and column.

country were not accidental. The Philadelphia craftsmen based their work on European books of iron design, but introduced many variations and a new genre in response to the taste of their patrons which, in turn, was colored by specific New World surroundings; in the case of the New Orleans patrons, by the overpowering impact of its swamps, its frenzied plant life, its lurking plagues.

In time, flowers and trees peculiar to the semi-tropical climate of southern Louisiana began to appear in the iron gallery panels—the live oak, the passion flower, the morning glory, various lily patterns—further evidence that New Orleans' patrons influenced the character of designs. Eventually, many of the Creole families lived in iron bowers as profuse and intricate as the luxuriant green world that encompassed them. Often the innumerable green leaves of vines became inextricably entwined with the multitude of delicate metal leaves and tendrils of the galleries.

Furthermore, during the period 1840-1860 in New Orleans a new architectural use for cast iron unfolded. Pressed by their dual need for outdoor air and for shelter from the sun, the people of New Orleans evolved cast-iron galleries from their single-tiered, uncovered cast- and wrought-iron balconies. This departure, definitely architectural, definitely practical, was never narrowly utilitarian. The galleries—unlike the balconies—projected over the banquettes or sidewalks, providing shade for the passerby. They were roofed, tall as the one- or two-storied rooms within, and supported by slim columns set in the curbs. Their airy elegance was a direct outgrowth of the consonance of their design with the strength of cast iron—no mere decorative afterthought.

The best of the plastered brick façades of old New Orleans are characterized by an exquisite softness of line and color, by delicacy and freedom of pattern in the iron panels and, most important of all, by close integration of the character and proportion of the ironwork with the form of the building. This complete fusion of iron and brick often achieved an organic whole, a harmonious solution for the climate with the materials available then —cast iron, cypress wood, local brick. It also served the psychological needs of that period. What distinguishes the use of cast iron in lower Louisiana is not only its remarkable architectonic integration with the form and purpose of the buildings, whether of plastered brick or wood; its special quality lies also in its profound relationship with the natural background of that time and that place—and in the struggle of the human mind against the threat of a semi-tropical environment, with its sinister combination of beauty and dissolution.

Clarence John Laughlin is author of "Ghosts Along the Mississippi," Chas. Scribner's Sons, a book on Louisiana Plantations; is now preparing one on "Lost New Orleans." His photographs were exhibited last month at the Chicago Art Institute. All those shown with this article are his.

The iron bower, Esplanade Avenue gallery uses three roses motif with incomparable delicacy; fantastic shadowscape below less intricate than ironwork.

Burgundy Street gallery, one of first to supersede the balcony; grape-cluster standards, Greek anthemions at top.

Robert Scharff

1.

2.

3.

5.

6.

Throwing on the Wheel BY ROBERT SCHARFF

A studio session with Edwin and Mary Scheier

4.

Successive stages in throwing a pitcher (Mary Scheier). 1. Wedging clay thoroughly before throwing is important to make it uniform in texture, get rid of air pockets. 2. Spinning up the cone, after clay has been centered on wheel and worked up and down to improve texture. 3. Starting of cylinder by pressing downward with thumbs to make depression in top. 4. Beginning to raise walls of cylinder, with wheel turning a little more slowly. 5. Hands form cylinder higher, keep the same distance apart for wall to be even in thickness. 6. This process is repeated two or three times to make wall thinner and higher. 7. Piece is kept cylindrical by pulling top together at same width as the base, using both hands. 8 and 9. The thinned walls are now shaped till the desired height is reached.

7.

8.

9.

With little more than a decade of pottery making to their credit Mary and Edwin Scheier are recognized masters of their craft. Edwin Scheier is an assistant professor of arts at the University of New Hampshire, Mary Scheier is "craftsman in residence." Yet they are not satisfied with their success, the international recognition they have received, the vast store of technical knowledge they have amassed on materials and methods involved in producing a good clay object. Both are constantly experimenting with new glazes, new designs and new techniques to produce utilitarian objects.

"There is no material more satisfactory than clay; and no material can be more dangerous," Edwin Scheier says. "Clay, a facile medium, allows more than most materials for trite and immediately pleasing effects. Mistakes can be hidden—too easily—under unrelated decoration. In many crafts an object may be given outside strength and interest. But in a basically abstract art like pottery it cannot. Clay is no medium for a craftsman who is unsure of himself. Neither is it a vehicle for over-sophisticated expression. Most of the present-day potters have lost the naiveté of the old craftsman who worked for his community as necessity arose and followed traditions upon which he had no need to philosophize. Pottery demands on the part of the craftsman both humility and restraint. For a craft in which technique plays so vital a part, there is a danger of virtuosity, bravura and preciosity—the three great enemies of even the best potters.

10. Top uneven edge of cylinder is trimmed with pricker. Left index finger is placed against inside of rim while point of pricker is pressed toward it from outside. 11. Hands are raised quickly, lifting up strip of clay. 12. Reinforcing edge or lip of piece. 13. Final shaping of the pitcher. 14. Water which collects on inside is removed from time to time with stick sponge. 15. A scraping tool is used for cutting away excess clay from outside of the foot. 16 and 17. Forming the spout. 18. Handle is attached. Finished pitcher is now ready for drying and for the kiln.

10.

11.

12.

14.

15.

Of course what matters most in ceramics—in which fast, immediate development of the essentials is a primary quality—is not the use of a new red or crystalline glaze, but the expression of a creative urge and a clear translation of a private sensation.

"But no material," Mr. Scheier insists, "can be more satisfactory than clay. Flexible, moldable, supremely plastic, it is responsive to the slightest pressure of the fingers, the slightest touch of the potter's hand. Fundamentally, clay has the permanent quality of things found in the earth; the potter handling should make it feel that it is an extension of himself that becomes alive."

It is this "come alive" feeling that makes the Scheier pottery so satisfying—and popular. Whether a simple ash tray or an ornamental bowl, the pieces invariably say to one who has a feeling for materials, "I am made of clay."

Most of the Scheiers' pieces are made on the wheel. The simplicity of their work is apparent in the series of photographs showing Mary Scheier throwing a pitcher. Notice that the major decoration is the simple and effective striping which follows the motion of the wheel, a characteristic of all Scheier pottery. If any other decoration is employed, it often takes a sculptured rather than a painted effect and may be incised or modeled or both.

"Nothing in the working of clay is more fascinating than using a potter's wheel," Mr. Scheier continues. "It is not easy to learn and it means many hours of patient work and experimenting on the wheel before you can master it. But to take a shapeless wad of clay and with skillful manipulation on the wheel to draw it up quickly into a form of graceful beauty is a skill in which you can take great pride. Once you master it you will never want to do any ceramic work but throwing on a wheel."

The career of the Scheiers dates back to the depression years, when Edwin Scheier served as field supervisor of crafts for the southern states and Mary Scheier was director of the Big Stone Gap Federal Art Gallery in Virginia. After their marriage in 1937 they spent a year in puppeteering. They traveled up and down the East Coast giving shows with marionettes which they had designed and dressed and for which they had built sets and written

13.

16.

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plays. Later they moved to Norris, Tennessee, where Edwin Scheier was appointed head of the TVA Art Center. Using native clay, they became interested in pottery and learned the techniques of making ceramics.

The following year the Scheiers branched out on their own, opening a small commercial pottery business. Their very first efforts met with success and award after award came to them for their skill and artistry in creating good utilitarian pieces. Eighteen months after this venture David R. Campbell, director of the League of New Hampshire Arts and Crafts, invited them to teach ceramics at the University of New Hampshire. Here they

Mary and Edwin Scheier stack the kiln in their studio pottery on the campus.

have remained, except for a period of war service in the Army Air Corps for Mr. Scheier, and a visit in 1945 to Puerto Rico at the request of the island's Industrial Development Commission. (The Scheiers were asked to train natives in the making of ceramics, a project designed to develop industry and create employment in the territory. Not only did they give classes in the art of pottery, but they also showed students how to make their own tools and equipment.)

Now among the tall oaks on the University campus at Durham, they continue their work of instructing in the patience and coordination needed for successful stints at the potter's wheel. If you were to spend a morning in the pottery studio there, a session devoted to throwing on the wheel, the Scheiers would demonstrate their skills and make suggestions much as follows:

In beginning work on the wheel, place a clean bat that has been moistened with slip on the wheelhead. Since the hands must be lubricated constantly during the working, a bowl of slip should be kept conveniently close to the wheel. Then, with the wheel turning, throw a ball of well wedged clay on to the center of the bat. Center the clay ball by grasping it firmly with both hands, bracing the hands against the wheel and your body, while the left hand exerts a steady pull toward the wheel center. Never let your arms and hands ride the clay; instead, force the clay to conform to the hands as they manipulate it. Keep hands and clay wet, applying more slip on the clay when it sticks and continually wetting the hands.

To get the feel of the clay and to remove any irregularities from it, work the clay up and down at this stage by grasping the mound in both hands and pressing toward the center as the wheel turns. This forces the clay to rise into a tall thin cone. The heel of the left hand is then pressed down on top, pushing the mound back into its original shape. Doing this two or three times improves the texture of the clay.

Start forming the cylinder by placing the thumbs on top of the clay dome, with the arms well braced and fingers against the outside of the clay. Apply a slight, even pressure with the thumbs on the center of the clay to make a depression and then continue the pressure until a hole is formed in the center of the clay reaching to about three-quarters or one-half inch from the bat. Go slowly with the thumbs to give the clay a chance to move to the outside of the piece. The thumbs must go straight down or the walls will flare out. To widen the opening made by the thumbs, the left hand is held against the outside of the clay, while the fingers of the right hand push down in the center.

To raise the wall to form a cylinder, put your right hand on the outside of the piece and your left hand on the inside. Next, press the clay between the index finger of your left hand and the first knuckle of your right and bring your hands straight up. Your left thumb will help you keep your hands the same distance apart so that the wall of the cylinder will be even in thickness. The walls will now be thinner and the cylinder taller. If you feel any place in the wall that is slightly thicker or thinner, exert more pressure for thick spots and less for thin ones. Complete the movement from the bottom to the top, never stopping in the middle. Repeat this process several times, making the wall as thin as you feel your skill will carry it or your esthetic sense desires. Use enough water to keep the work lubricated but do not use any more than is necessary. If you do, the walls will weaken and slump. From time to time remove the water which collects on the inside of the piece with a stick sponge.

The top edge of your cylinder should at all times be under control. The weight of your thumb gently resting on the top edge is generally enough to keep it even. But should it be uneven, so that it is necessary to trim off a narrow strip, a pricker or knife can be used. Hold the left index finger against the inside of the rim while you press the point of the pricker or knife blade toward it from the outside. Keep the wheel turning at a moderate speed and press the point in slowly until it goes all the way through. Then raise both hands quickly and lift up the strip of clay which has been cut off. The top of the cylinder will be perfectly level but slightly rough. But if you moisten the fingers and hold them against it, it will become smooth.

Even though you strive to keep the wall of your cylinder exactly even from top to bottom, the base will be slightly thicker and you should use a scraping tool to cut away the excess clay from the outside of the base. To form the spout, the first two fingers of the left hand press against the outside while the right index finger pulls the clay out between them. When the spout is finished, the handle is attached. The bat is removed from the wheel and the object left to dry. Then it is fired, glazed and fired again in the kiln.

Dorothy Liebes who has won international acclaim and countless awards for decorative textiles is design consultant for Goodall Fabrics, Kenwood Mills, United Wallpaper, Inc., Dobeckmun, Inc., Columbia Mills and others. She is a director of San Francisco Museum of Art, and is on the advisory boards of the Museum of Modern Art and the Parsons School of Design, in New York, and of the Rhode Island School of Design, among others. She holds an M.A. from Columbia University, an LL.D. from Mills College, California.

Designing Textiles for Industry

BY DOROTHY LIEBES

An inspired artist and weaver pioneers on her loom for an exacting mass market

THE use of a handweaving studio and pilot shop for mass production is a fairly recent reality. Here and there one reads of instances where a successful handcraft object was used as a model for the machine, but the retention of an artist-craftsman as designer and stylist, as part of a planned program and on a long-term basis, is Twentieth Century business.

The number one reason for employing a stylist for a company is to make a profit for, or increase the profits of, that particular company. All considerations of better design, lifting the level of mass taste or adding prestige and promotion value are by-products. On the other hand, all these by-products may actually (directly or indirectly) increase profit. The process of appraising an artist's true value to his company is complicated. An artist, no matter how gifted or dynamic, can not make his true contribution in a short space of time. It requires first: ideas, plans, patient skill and long range follow-through to bring about a new and good design story. "One swallow maketh not a summer," nor one successful line a profit-

able textile business. For this reason a two- to five-year retention by industry of a proven artist is the only fair gauge for both.

What is a proven artist? There is no mystery on this score. He is an original creator and craftsman of obvious accomplishment. Here industry has the edge. It can look at an artist's work, judge the number of exhibits he has had, appraise his rating among contemporaries and his standing in the art world, and determine the acceptance of his work by the consumer public. His "Hooper rating" is an open book for all to see.

But an industry's potential may not be as easy to judge—the direction may have been set by someone ill-equipped to set the design level. Hence it may be and often is difficult for an artist to decide whether or not the company will give cooperation and sincerely attempt to carry out a projected program. An artist should weigh the rating of a company and its leadership quite as cautiously and searchingly as he is scrutinized by industry.

My experience may be helpful to other designers. I was a designer and handweaver and teacher for many years before being approached by industry. Although I lived and worked in San Francisco, I had built up a clientele among architects and decorators in the East, particularly New York and Chicago. In due course we had piled up a good many awards (like the Lord and Taylor Award, AID Award, the gold medal of the American Institute of Architects, the Nieman-Marcus award), and we had exhibited in eight or ten museums. Plenty of midnight oil was burned over the arduous business of special designs to be submitted to the various contests and admission shows. The back-breaking business of traveling with enormous boxes full of textiles, the endless correspondence to arrange a showing, and the patient process of display—in other words, the articulation of years of work—all went into the building.

My contact with the Goodall mills came about partly because of blended fibers. For years I had woven with a mixture of fibers to get my effect of scale and texture, using wool and rayon; mohair, silk and wool; cotton and rayon or nylon; flax and cotton. The Goodall people also liked blends of fibers—so far as we can ascertain, they were the pioneers of this idea. Today their products are world-known, and their quality accepted. How the rest of the textile world has followed their blended fiber ideas is a matter of history.

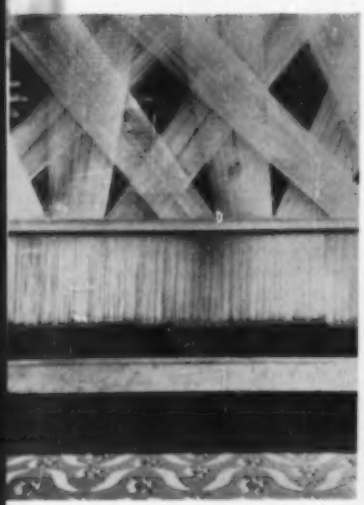
The handwoven design business feeds the power-woven design story in many ways. Fortunately there are always some who desire handmade things of beauty and originality—the custom made. In this sense they are the art patrons, the Twentieth Century Medici. This support of the designer-artisan makes possible, in turn, new ideas and designs for industry in a proven, pace-setter way. The clientele for handweaving is a cross section of the top-flight decorators and architects in the country and what they use for their clients is consistently the *avant garde* of the textile world. They serve as a guinea pig for consumer acceptance and industry doesn't take any great risk in producing whatever they have accepted, properly timed, of course, for the mass market.

But just turning out a new piece of weaving or a new print design isn't the entire story. A designer must fulfill other requirements—some I shall list. Trace and understand (1) the style cycle, (2) color trend, and (3) correlation of fabric, for both clothing and home furnishing.

All these take research. In our studio we cover and clip seventeen trade magazines. It means reviewing the chief style shows and principal markets, in Chicago, Grand Rapids, and New York. It takes a close tie-in with the chief color pace setters in the world.

A constant study of the best in the fine arts world is necessary—from a Matisse exhibit to "The King and I." It means travel. Designing for a world market is no ivory tower proposition. A yearly trip to recharge the batteries and feel fresh ideas is a must—travel is the designer's staff of life. And Paris is on the yearly agenda.

If one designs for the "shelter" field, a constant study of architecture is necessary—from the architecture grows



Complex warping for a pilot jacquard loom at Goodall Mills in Maine, left. At right, Dorothy Liebes in her design studio; below, improvising at her loom. Far right, Goodall pilot shop, showing all different types of looms.

the idea. When people ask "What is your source of inspiration?" for this or that fabric, I usually answer "A wonderful blueprint from a fine architect!"

I believe a designer should definitely reflect his era, that he is a richer person if he is a contributor to the life around him, including community enterprises. If one has a chance to teach at a Navajo reservation or for an arts and skills group in a hospital, so much the better.

The designer knows or should know the art of the past—and then proceed to create for today in his own way, with materials of today. In other words, working and designing from the background of a great storehouse of actual knowledge, the designer consumes it, then turns his back on it, and creates logically and with originality.

What will be our Twentieth Century textile legacy a hundred years from now? It certainly will not be our copies of the past. It will come from our own independent efforts of today.

And now I come to the matter of *taste*, a perfectly good word, so frowned on by most contemporary lecturers in the field of art. I consider it an ingredient in much the same class as the definition of charm in "What Every Woman Knows,"—if you have it nothing matters; if you haven't, nothing else matters! Taste is a magic, inborn ingredient. A latent sense of taste can be nurtured and developed, but it must be there in some degree at the start.

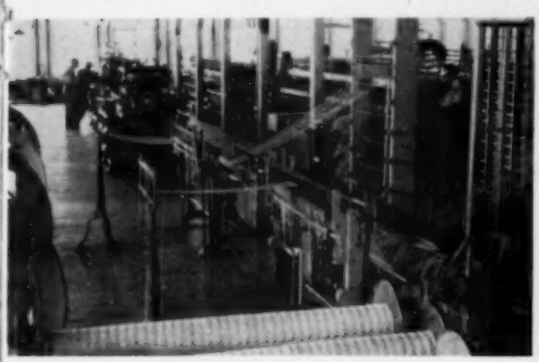
A firm has the right to insist on an above-average or cultivated taste in its designer-stylist. In the first place, so much of the job is a matter of selectivity, where background knowledge and intuitive taste swing the balance. Fortunes are made or lost by this matter of taste.

Here I should like to caution the designer that intestinal fortitude and a lot of bravery are needed in dealing with industry. Art is heady stuff and almost everyone feels that he "knows." How often have we heard the cliché, "I may not know art, but I know what I like." What really is meant is that he likes what he *knows*.

But *you* are the trained professional in line, form, color, composition and design. You have been hired in the first place for your taste and knowledge. Therefore it is your duty to stand by your convictions.

On the other hand, common sense demands that, within the bounds of integrity, there is much give and take in the bringing forth, via conferences in the design development department, of a new textile or a new line of textiles. I have profound respect for the business man's experience and point of view. Ditto for the mill technician's experience and knowedge. The best results from my observation come from conferences and experiments.

And now to the technical side. Mechanically, handweaving is the simplest craft of all. But power-loom weaving can be vastly complicated and the potentials of power weaving must be understood by the handweaver. For most of us, an apprenticeship period of work in a textile mill is invaluable. We must know every step from the spinning process through the many and varied finishing processes.



An important part of your textile education is agronomy, which includes the study of natural fibers and also chemistry for the study of man-made fibers and dyes.

Almost every day we receive sample reelings of new yarns or new ingredients for weaving from mills to be tried out on our pilot looms. Hundreds of different types of yarns are filed in our yarn research bureau. Every yarn design of the mills for which we work is filed with us, for possible use in new fabrics.

Handweavers often have a sentimental approach to dyes, but I feel the dye story is a scientific process which needs the effort of a skilled expert with whom you work. Today's finishes, fire-proofing, water-proofing, play an important part. We have a person in our hand loom pilot plant whose main work is concerned with new yarns, dyes and finishes. He is a graduate of a technical school in Germany and an expert.

Being a textile consultant usually involves work for the hand screen print and roller print department. The development of new greige cloth, and the correlation of prints into the entire line is part of your work. For this I have the assistance of two able print artists. We scout for new talent, plan promotions for the prints and color croquis. We set an over-all color palette one year ahead and work to it over a three-year period. It has been our policy to engage the services of truly gifted artists throughout the studio. Naturally they will in time establish their own studios; and we are exceedingly proud of the long list of famous print designers and weavers who have at one time been part of our studio. New young people and ideas coming into an organization, added to your backlog of experienced people, give zest and continuing growth to your set-up and point of view.

We have two separate though interrelated studios:

I. Custom-made, no-two-alike weaving jobs for decorators, architects and industrial designers. Each problem is a new one, for which we work out sketches or models and then weave up the accepted one. For this we have twenty people, all able weavers.

II. Hand Pilot Shop—where most of the research and designing is done. Here we have the drawing boards, and six small 20"-30" looms and a knitting machine. In the case of Goodall, we make our models out of their basic yarns, adding any new yarn we think might prove interesting. The looms are versatile, from pile to leno, though dobby is the backbone of most constructions. Then the model is sent to the mill pilot shop and I try to be there for the translation, with the model before us as we work directly on a small power loom. The Goodall Pilot Mill and Dye Shop is an inspired model of efficiency where fabrics for casement, coat material, carpets, men's and women's suiting, industrial cloth, automotive cloths and countless other textile end products are born.

It's all hard work and vital work. Your greatest remuneration is the thrill of seeing a mass-produced fabric for which you've worked in the 20th Century Limited, an automobile, a hotel lobby, or a Levittown housing project.

In other words, never a dull moment. You won't make any money—or if you do it's all ploughed back into doing the job. But you'll have a perfectly lovely time!

BY IMOGENE FROST

Rockhound on the scent

THE number of rockhounds in the United States is uncounted but variously estimated at from two hundred thousand to two million. I think the breed registry should include every man, woman or child who sees a bright pebble on a beach and feels impelled to pick it up and cherish it thereafter. Such a person has a kind of lodestone within himself; he has the makings of a rockhound. But though the number of rock seekers with varying degrees of technical knowledge is large, I have so far heard of only one rockhound of the canine variety.

He was a Basenji, watch-dog, companion and—so they insist—fellow prospector to a pair of intrepid mineralogists in the lonely mountains of Arizona. Through his thirteen years he was called "Puppy," though other, younger dogs came and went. Puppy had a friendly, reflective, philosophical nature. He liked sitting on his own rocking chair on the porch, but most of all he liked prospecting trips. Hot, exhausting, exasperating work sometimes, but Puppy never tired of it. It was not uncommon for him—so they say—to find some particularly arresting stone, come to a point, and lick the stone with a sensitive tongue (all human rockhounds do this, too, to discover the true color of the rock) until his mistress arrived with knapsack and pick. If she exclaimed over a particularly lucky find of her own, Puppy carried on with as much joy as if he had personally uncovered the Star of India.

In his old age, this gifted dog became distrustful of strangers. He nipped at their heels. The only way his mistress could induce him to show respect was to meet guests half-way down the pack trail and gird them with knapsack and pick-axe. Then Puppy would greet them, properly equipped and identified as rockhounds, with the hospitable eye of an old friend.

Apocryphal or not, this tale shows something about rockhounds: true love is the foundation of their pursuit. Love of personal adventure, love of mystery, love of discovery, love of color and the feel of beautiful things—these are their basic equipment.

To discover a stone which no man has ever before held in his hand, a stone unique in all the world—for stones have as much individual character as people—is to know the delight of a child to whom all the world is new. Anyone who ever had a lucky aggie knows this feeling. I used to hold mine and say to myself, "I am the sea; I hold the land as one holds an apple in his hand." A very lofty sensation.

To cut and polish a stone into a gem, to set it in gold or silver, brass or copper to suit the fancy, is to know the full joy of the workman, the jeweler, the artist. Rockhounds experience high adventure on many levels in their tireless quest. But not all rockhounds pursue all these avenues. There isn't time enough in the longest life span. Some collect mineral specimens, learn to identify them, delight in placing them in rows as a kind of thumb-nail history of the earth's crust. The most orderly arrangements in all nature, it is said, are the varied crystal systems found within minerals—though violence, eruption and downright chaos at the beginning of the world brought this order into being. Perfect crystals are among the loveliest of nature's gifts. And those who study them know that there are two hundred and thirty different patterns into which atoms can be arranged so that they may be repeated indefinitely in three dimensions. These two hundred and thirty crystal patterns belong to six great crystal systems, each representing perfection in this imperfect world.

Some rockhounds begin with the search for and iden-

tification of gem stones. Their burning interest is to get to the heart of the stones' mystery, cut them with a diamond saw, polish them, reveal their strangeness and wonder. To the rockhound who is also amateur lapidary, some of the plainest Janes among his rocks may turn into the most glamorous.

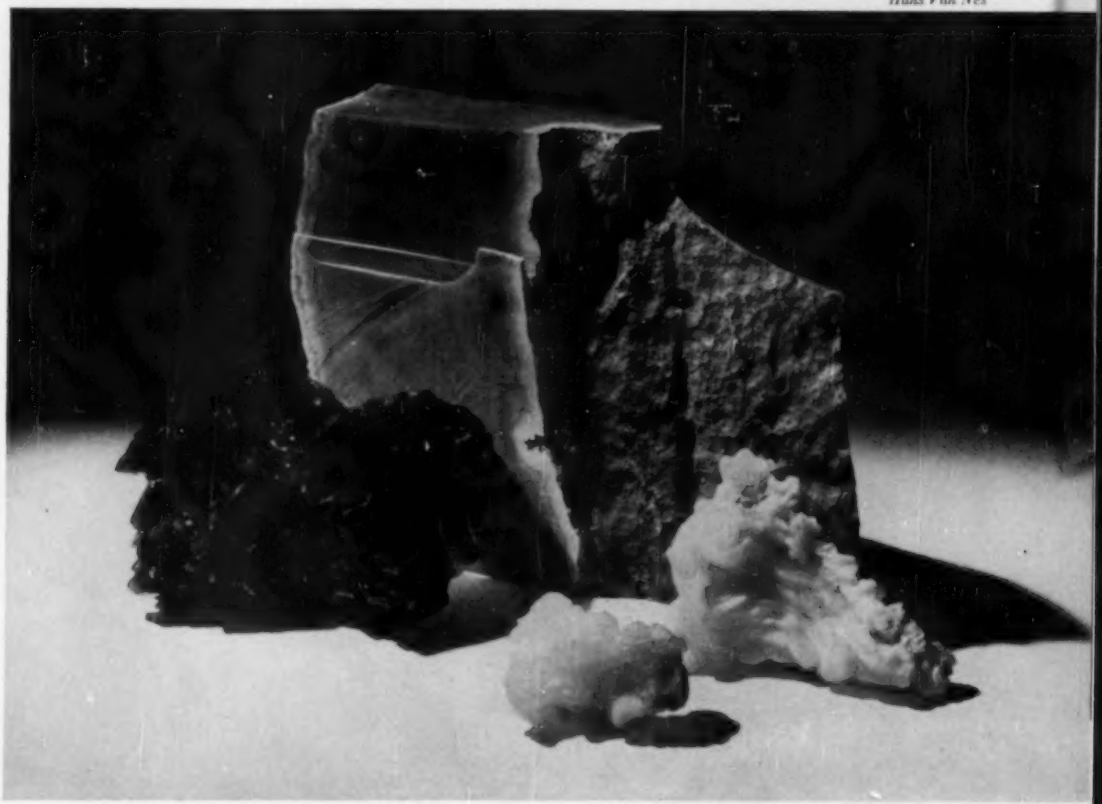
A rockhound can become so absorbed in the fascinations of one particular kind of stone that he will pursue this and no other. Your jade enthusiast looks down his nose at an agate man. The agate man doesn't care. A pursuer of turquoise knows that there are at least ten thousand shadings of blue and green within this stone—greens and blues unduplicated in sea and sky. My favorite is the moonstone. Where is there any color—almost the absence of color—so subtle? The small night-time light within a moonstone, only half a candlepower really, can warm one altogether.

Some rockhounds, artists at heart, find their greatest pleasure in fashioning jewel pieces from gems as they come from the lapidary's wheel, or just as they are found. Still others derive continuous delight from reading the extensive literature on stones, their history and the ancient lore associated with them from the days when Adam delved and Eve span and both found the gems of the hard earth some compensation for having to dig therein. Why the ancients believed the amethyst a preventive of drunkenness (so much more convenient than abstinence); why Aeneas carried an agate with him into battle; why the topaz belonged to the great god Mars; why all beloved children in Egypt from at least 4000 B.C. wore charms of malachite—these are questions whose answers have a charm of their own. The library of any art museum is rich in the lore of stones.

This can lead into deep and devious channels of labor and study—for love can be a hard task-master in this and other fields. The only kind of love which can spoil the bona fide rockhound is an excessive love of riches. For those who pursue only the world's precious gems—by modern standards now limited to diamond, ruby, emerald and sapphire—or who seek the most remunerative minerals, rockhunting ceases to be a hobby. It becomes a perfectly honorable way of earning a living or winning a fortune, but it isn't a hobby.

Happily, the largest share of the world's most beautiful, colorful, and appealing stones belongs in the class of semiprecious, even common stones. Many of them have in ages gone by been considered precious—the garnet, lapis lazuli, amethyst, zircon and many others.

Hans Van Nes



Opposite, far left: azurite and malachite, then, chunk of agate, partially polished, and agate with amethyst. Above, rough jade with polished face, amethyst, and California chalcedony, "desert rose."

But these gem stones are found in many places; they lack rarity. Fashion has given them second place. They do not possess the lofty hardness of the diamond. Diamonds may be a girl's best friend, but to my notion the color, the warmth, the fire, the luster, the chatoyance, the charm and mystery of a hundred humbler stones set them higher in the ranks of beauty than the diamond.

Partly by virtue of the fact that they are not "precious," most of the stones of the earth are priceless to their finders. They offer no special attraction to man's greed—only to his love. What is the going market price for adventure, exploration, discovery? What is the worth of the first bud on the lilac tree, a sunbeam, a pebble?

One of the happiest facts of all is that surpassingly beautiful stones are to be found in every section of the world. You can start looking in your own backyard, on the nearest beach, river bank or rock quarry.

With a little knowledge, a lot of curiosity and patience —and the underlying wonder—you can feast your eyes on beautiful gem stones almost anywhere. Suppose you have all these qualities except the first—how do you go about acquiring the knowledge required to make you a rockhound? Perhaps the soundest method is to begin by visiting the nearest museum of natural history. Here you will find in both rough and polished form fine examples of most of the world's rocks.

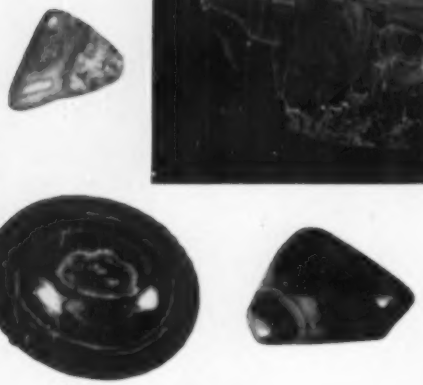
Rocks are merely aggregates of minerals—some simple like sandstone, which is mostly quartz, some complex. Ordinary granite contains feldspar, quartz, amphibole and biotite. Study the rocks in any museum with minute attention to outward physical characteristics and you will learn something of what to look for in the field. To supplement this knowledge, there are many excellent textbooks which describe rocks and their nature with great clarity. If there is a mineralogical society in your vicinity —and there are more than three hundred in the United States—join it. If you know a rock collector, get him to show you his collection and let you hold his prizes in your hand. Then you will never be content until you have found some for yourself.

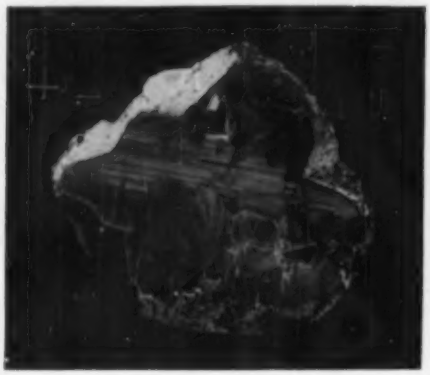
There are only about 1600 well defined minerals—a hundred and fifty of them common. And of these only about thirty are dominant in the make-up of rocks. A studious rockhound can learn to know the predominant minerals and to recognize many stones in the field with no equipment other than his own eyes, a prospector's pick, a magnifying glass, and a jack-knife. A Mohs scale set of implements for testing hardness will be useful. In addition to hardness, the definitive tests for stones are cleavage, specific gravity, streak (the color of the stone when powdered), luster (appearance by reflected light), and color.

Where do you begin to look for rocks? The backyard isn't bad, but it is likely to be more rewarding to search in some area where there is an outcropping of rock. An old stone quarry in New Jersey is quite as likely to yield gem stones as a ridge of the Rocky Mountains, if too many rockhounds have not been there before you. A mine, a highway or railroad cut, a beach, a river bed anywhere —these may yield treasure beyond dreams. Or nothing. A weekend prospecting trip in the mountains or plains can be a wonderful adventure. Rock talk around an open fire after a day's prospecting can be just as tall as the assemblage will stand for. Who cares if you did find a ruby in the Sweetwater River?

If you want to know the most likely spots in your own home state or county, or some vacation spot where you might find likely prospecting, write to the Director of the U.S. Geological Survey, Washington, D. C., for a catalog of its publications.

A study of the geology of your hunting ground is important, for though nature has been generous in her distribution of beautiful stones, she has not been helter-skelter. Certain types of rocks appear always within certain types of geological formations. In the main, gem stones are found in place, as an integral part of the rock in which they were formed, or in float, in the gravel and dust of weathered and decomposed rock. In place, stones are found largely in igneous rocks forced near the surface of the earth's crust in a molten state ages ago. Many





Left corner, pinkish-gray oval stone author found in backyard in Massachusetts; thunder-egg (geode) filled with agate, from Idaho; and agatized wood, Arizona.

such rocks are found in the mountains of the East, the Rockies, and the coast range of the far West. Gem materials in float are commonly found on the banks of ancient lakes, of active rivers, and glacial moraines. Such treasure-filled gravels are found throughout the midwestern United States and the great plains region. To produce this treasure in the first place, nature has called upon all of her forces, the action of water, great pressure within the earth, and the immense heat of volcanoes. Minerals come into being by one of three routes: from solution, from the cooling of a molten mass, from gas by condensation—liquid to solid in a single leap.

One of the most important of these processes is the formation from solution, with water as the chief solvent. Water which falls as rain or melts from snow, or rises upward from the inmost places of the earth as hot springs or steam, dissolves substances in the earth's crust, rearranges them in many ways, and redeposits them as minerals. The calcite of stalactites and stalagmites is a rain-formed mineral. Lovely green malachite and heavenly blue azurite are rain-formed minerals, too. The deep, earth-centered hot waters are largely responsible for the deposition of gold, silver and many other precious metals. If nature had not been so kind as to assemble these minerals in concentrated form, we might still be using wampum.

Minerals formed by fusion deep within the earth make up the igneous or fire-born rocks. The most important of the fire-born minerals are the rock-forming silicates, including feldspar, amphibole, pyroxene and mica.

Minerals formed directly from vapor are rare. Sulphur crystals are the best example.

There is still another source of minerals—outer space. Meteorites—those infrequently found, strange and wonderful visitors—must excite the imagination of anyone who has ever seen a fragment. Some of these are principally composed of iron—but by far the larger number so far found are rocky. They usually contain the same minerals found in terrestrial rocks—nickel-iron, diamond, graphite, magnetite, quartz, olivine, pyroxene and feldspar. There are, however—and this is the magic—some rare minerals never found on this earth at all, known only in meteorites.

Although there are thousands of different stones, it is well for the amateur collector to know that they can be classified according to large family groups. All rocks are classified according to the method of their origin as: igneous, solidified from molten lava; sedimentary, an accumulation of fragments deposited by wind, water and organisms; and metamorphic, originally either igneous or sedimentary, but altered by heat, pressure and water so that their original character is changed.

About twelve per cent of the earth's crust is made up of quartz. So the quartz family of rocks is by far the largest. To this family belong most of the gem stones found in the United States. Every state in the Union yields some beautiful members of the family. Crystalline members are known as smoky quartz, amethyst and rose quartz. Translucent varieties are chalcedony (which includes all of the gorgeous agates—hundreds of varieties), chrysoprase, carnelian. Denser quartz forms are jasper and bloodstone. Opals are quartz with water in their composition. Petrified wood and bone are organic materials in which quartz, either in the form of agate or opal, has replaced the living cells.

Still another large family are the silicates, including garnet (a double silicate, for all the January-born who take special delight in their birthstone), epidote, spodumene, zircon and peridot. To urban rockhounds, it may be encouraging to remember that one of the largest and finest garnets ever found was unearthed during the evacuation for Herald Square in New York City.

The feldspars make up a very large rock family, too. They include sunstone, moonstone, labradorite and many others. There are still other family groups—all of them important to the gem collector, all of them with their own special interest and beauty. The sapphire and the ruby are brother and sister in the corundum family. The diamond is the proudest member of the carbon family.

Beautiful stones to delight a rajah, a king or a child are everywhere waiting to be found, to be polished, to be set as jewels, to be cherished. Wherever you live, you can find them if you look. For many centuries, alchemists sought the Philosopher's Stone, that magic talisman which by its touch should transmute baser metals into gold. How much happier is the rockhound who knows the simple magic of turning all stones, including gold, into something much finer—jewels beyond all price.

Nephrite jade has endless variations; these forms from Wyoming, California.

Mrs. Frost, a true rockhound as well as writer (she has collaborated on lapidary books), delights in turning up gem-worthy minerals near her home in Morristown, New Jersey. On a prospecting trip in Oregon this summer she will concentrate on the family of agates, her special love.

BY DONN SHEETS

Paneled backgrounds

A New England craftsman works with native walnut, maple, chestnut, oak and pine

Barron Collen

If the average person were asked what kind of paneling he has in his house, he would probably answer, "None." Yet almost every door, window and picture in its frame is paneled, not to mention the various sides and parts of most pieces of furniture, portions of innumerable decorative and useful objects and even sections of clothing. For a panel is "a piece of cloth, or portion of a surface of wood or stone enclosed in a compartment, a bordered member to which the effect of framing in has been given."

The general conception of paneling, however, is understood as the walls of a room—or part of them—covered with wood panels. Although not really correct, common usage has grown to include walls covered with wood, such as vertical or horizontal boards or plywood. These arrangements provide a pleasing and appropriate solution for many schemes, but lack the character and richness of joined, molded and raised panels.

In Europe and other parts of the world paneling was developed to a state of perfection and high artistry long before the colonial fathers used it in our early houses. In America, soon after the settlers had closed themselves in from the weather with walls and roofs and had found time to think of comfort and appearances, they covered walls and made partitions of boards and paneling, as lumber was in abundance and lime to make plaster was not. In Europe, by this time, the American counterpart had flourished, from the simplest board with a frame around it to the most intricate shapes and designs, carved, gilded, molded and decorated, as seen in the Gothic linen fold pattern and in the elaborately curved and scrolled devices of France.

In a library built for Catherine de Medici at Blois, the walls of the room, which is medium in size, are covered with some six hundred panels, dozens of which open cleverly to secret compartments. American builders did not have as many secrets as Catherine but they did make ingenious secret panels which slid or opened variously if only to hide the money under a sugar bowl or to provide an escape door to a passage back of the chimney in case of Indians.

My personal interest in paneling is centered principally on types developed in this country and variations to be used in the modern scheme, as I think these are the most adaptable to our interiors. Rich sources of material are available, to anyone interested, in many museums and restorations throughout the country. Notable are the American Wing in the Metropolitan Museum, the Henry Sleeper house, "Beauport," at Gloucester, Massachusetts, colonial Williamsburg in Virginia and the extensive Du Pont Winterthur Museum recently opened in Wilmington, Delaware. Paneled rooms, in part or entire, are represented in these places and in many others, in all styles from the heavy, crude type of the earliest settlers through the elegant and elaborate late Eighteenth Century and the federal and Greek revival periods.

Almost all kinds of native woods were and can be used, provided the boards are of sufficient width to make

Victoria Lidov

Detail of antique pine pilaster, handcarved and fluted, in bedroom of Donn Sheets' house at Upper Merryall; opposite page, fireplace, butternut raised panels, hand-made moldings. Above, corner showing gallery in author's house, chestnut panels and beams.

Right: room in shaped pine paneling. Beyond: solid walnut piece, set-in panels; sofa designed by Donn Sheets, covered in fabric woven by his mother. Side wall of bedroom, detail shown on page 27.

Chestnut beams and paneling in author's living room, corner from another angle on page 26. Mr. Sheets has put his house together himself in precious old local woods.

the panels without joining. Pine, however, is the most common on account of its availability and workability. Oak, chestnut, butternut, maple and even mahogany all have their own rich characteristics.

Planning a room—wall, wainscot, overmantel or section—is like any other craft: a matter of form, proportion, style, material and spacing appropriate to the other elements it is to be used with.

The earliest type of wood wall covering was just straight boarding used either vertically or horizontally. As soon as the Pilgrims had caught their turkey and built a fire to warm themselves, their minds turned to embellishment of this simple form, which first consisted of tongue and groove—a much tighter joint—and then various moldings used at the edge of the boards to catch the shadows and to create a pattern on the wall. The groove side of the board often had a quarter or half-round mold at the edge, into which fitted a flat beveled cut with a shoulder of varying width. This is known as feather-edge boarding and is the same pattern used with variations on most of the later panels. A molded filler strip up to about three inches wide was also used between straight boards; it gave a rich effect and used up narrow strips of wood. The next step was the panel which consisted of a rectangular framework, mortised and tenoned together with the molded round edge, into the groove of which the beveled edge on four sides of the panel was fitted. The tenon joints were fastened with pegs or glue, but the panels were left loose so that they could come and go with atmospheric changes and not split as they would if fastened. The long bevel tended to make the panel fit more snugly than a straight tongue, and as it beveled out beyond the frame it created a raised panel with very rich highlights and shadows. This is the basic panel, splendid in itself but varied by different moldings on both frames and panels, carving and decorations of many sorts and sometimes frames in shapes other than the rectangular with curves. The panel frames were made in workable sections and applied to the walls with pegs or nails. Joints were covered with pilasters or moldings, the top finished with

George H. Van Anda

a cornice mold and the bottom with a base. This system made it possible to remove the work and reassemble it in other rooms. I have taken old paneling and re-used it in a room with different spacings without much loss and very little addition of parts.

Moldings used in the old work were particularly beautiful; they were all made with wooden planes which had handmade, shaped steel blades. These can still be found and used but are difficult to operate. Cutters for modern machines can duplicate all the old cuts but seldom do as the antique full-bodied curves and shapes required thicker material than present economy of wood permits.

In duplicating old types of paneling it is ideal to use antique wood, for it has a quality which is impossible to capture with new material. It is expensive, however, very difficult to find, and requires back-breaking effort to put in usable condition. Invariably it is covered with many layers of paint, wallpaper and dirt which must be taken off with remover or sanding, or both. The boards seldom are the same thickness and planing by machine cuts off the very patina and precious quality which must be preserved. Also, there are holes and splits which must be avoided or patched, so that the initial labor is great.

Nothing can imitate the rich and comforting effect of a wood wall in a room; it is the perfect foil for other decorative things and for gracious living. Therefore, the first choice of finish should be some form of natural wood which allows infinite variety of wood tones from dark to light, and bleached and pickled effects. These can be obtained with the many stains on the market, and finished with wax polishing. High gloss varnishes and lacquers tend to ruin the soft quality of the wood. Many of the old rooms were painted in colors or in white. Painting is a good solution, particularly if the wood is not attractive in itself or if it is new. Glazing the finished job with a thin color darker in tone, and wiping it with a soft cloth, produces a very mellow look as the darker shade settles into the moldings and corners.

Much furniture is merely a series of panels fastened together in various ways. For instance, a chest may have a panel for each end and for the back, supported at the corners with screws or set into a leg or corner piece; and the front may consist of panel doors or drawers framed with molding. Chair backs, headboards and many other pieces often consist of one or more panels set in a frame.

In the contemporary school of design the panel does not play such an important part, as the use of laminated boards or plywood makes it possible to use large flat surfaces joined to each other without a frame. Since regular boards glued together to make this effect are not satisfactory because they expand and shrink too much, they are often set flush in a frame. Thus the panel continues its usefulness even in the modern scheme. Quick imitations of old paneling, made by using plywood or other flat machine products with moldings applied on top, are both unconvincing and unnecessary. These same products, simple and unadorned, can be rendered very pleasingly in the modern vernacular.

My own enthusiasm for fine woodwork may be attributed to the fact that my father and grandfather were both in the lumber business and you might say that I have a solid oak, walnut and maple background. I learned to work with wood at an early age. After studying architecture and interior design and having my own shop for years, I conclude that there is no more satisfactory medium. Regardless of all the new synthetic materials, I feel that fine woodwork, like the open fireplace, (two of our earliest developments) cannot be duplicated.

Those of you who answered "none" in the first paragraph: look around now and you will find yourselves surrounded with panels.

Donn Sheets, architect, has his own cabinetmaking shop in New Milford, Connecticut. Besides designing houses and furniture, he works in metal and glass if need be. He has remodeled his old house—built into gardens on three levels — from the chimneys to a paneled chestnut piano case.

Students' work: jacket is of red suede, bag below, natural ostrich; on next page, gold suede, stitched by hand. The gloves and belts are suede in assorted shades.

Leather for fashion accessories

A practical college course prepares young craftsmen for professional design

BY MARGARET RISWOLD

As assistant professor of art at the University of California, Margaret Riswold organized in 1948 a course in design and construction of costume accessories to tie in with the Apparel Design Curriculum. Mrs. Riswold teaches this, as well as classes in handweaving at the University.

LEATHER has served man well since the dawn of civilization and with little acclaim. Its first use was for his clothing; long before the Christian era leather was used for wagon tires in Sumeria, for funeral tents in Egypt, for primitive boat sails in Brittany; in early England, for armor, bottles, mugs and fire buckets. Since time began, leather apparel and accessories have been prized for their durability, warmth, variety, porosity, beauty.

Doubly-prized are those articles designed and made to one's own specifications and taste. Custom-made leather gloves, belts, handbags, sandals, jackets are a luxury not everyone can afford. Students in the apparel accessories class at the University of California have solved this problem by making and wearing their own.

The articles shown here depict the variety designed and constructed by beginners—students who have never before touched leather except to put on shoes, open wallets, buckle belts.These are the results of individual planning, experimentation and careful workmanship—results that any custom tailor or designer would be proud to show his exclusive clientele. True, the course does not, during one short term, turn out skilled leatherworkers for the industry, but such is not its purpose. Rather it is to develop a greater appreciation that grows through experience with and knowledge of the medium.

The class at the University is correlated with the apparel design curriculum, established in 1945 under the chairmanship of Louise Pinkney Sooy. Emphasis is therefore placed on those accessories which are indispensable to a well-planned wardrobe—suede articles, gloves, handbags and sandals. The principles of design and construction of these few items may be employed in making almost all leather apparel.

The student's first adventure is with suede—a logical transition from tailoring or draping. The problem is to design and make an article of garment suede or degrained suede, using machine stitching. Like any designer, the leatherworker must learn to follow the dictates of his medium and so work with it that the structural simplicity of his design shall enhance the innate beauty of the leather. Superfluous surface decoration detracts from the durability of the article as well as from its attractiveness.

Each individual selects his project—a belt, a stole, a ski belt with pouch, a crush bag, a man's tie, a sleeveless jerkin, or a fully-lined, longsleeved jacket if he has the courage. The procedure from that point is very much the same for all: drawing three or four quick roughs of the idea before drafting a pattern and making a muslin dummy. Muslin is used because it is the cheapest available material which "handles" much like a garment suede and because the class is familiar with it from the tailoring classes. In the muslin many problems of design may be solved and construction procedure clarified.

Shopping for the suede and making selections from the stock of the local leather dealers is also an individual project. Learning to select fine skins is an art in itself which comes only from first-hand experience. It must be recognized that leathers are from animals having many variations in their skin textures. One of the beauties of leather lies in its natural irregularities which can never be duplicated by artificial grainings or surfacing or by fabricated materials. As knowledge is gained through working with leather, a discriminating appreciation of fine quality helps in selecting suedes that will not crock, that are uniform in color, texture and thickness, and that have

as few blemishes as possible.

After the selection of the skins, work progresses rapidly. A beginner should have a separate completed pattern for each piece of leather to be cut, each pattern marked clearly "this side up" to avoid cutting two left sleeves—don't forget, suede is not reversible. All patterns are laid out on the skins at the same time to insure proper cutting of each piece. Whenever possible, avoid the spongy portions of skins, or use them where they help in fitting or styling an article. Seams press down flatter if the leather is soft and pliable where stitched. Brush the nap of the suede in one direction, lay the pattern in place, then use the fingers to brush the nap gently in the reverse direction around the edges of the patterns. A clear outline is visible when the patterns are lifted. Sharp scissors or cutting tools are imperative.

One of several methods may hold the parts together for perfect stitching. Baste if the leather is very light. Pins or staples or a thin line of latex glue along the cut edges are satisfactory for firmer suedes—ripping and restitching may prove disastrous. In all cases, the seams can be opened easily after stitching and pressed flat when a professional tailoring is desired.

The question of reinforcements and linings must be dealt with individually. Often no reinforcement is used, or perhaps just a piece of batiste or light muslin if the article is to be soft and informal in character. When the design dictates a more tailored or firm construction, hymo, calfco, canvas duck or steer-splits are used. Whichever reinforcement is used, it must be attached firmly to withstand dry cleaning and wear. Most adhesives are soluble in the cleaning, so if the reinforcement cannot be tacked or stitched in place, an adhesive that will resist naphtha must be used.

Almost any fabric may be used to line suede—suede itself, silk taffeta, crepe, grosgrain, faille or printed cotton, depending upon the character or mood of the original design. The more luxurious fabrics impart elegance, the informal ones a colorful, casual air. In any case, the lining should be slightly smaller than the outer suede if it is not to swell beyond its boundary.

Suede may be sewn successfully on most home machines with a size 2 or 3 needle, a $\frac{1}{16}$" to $\frac{1}{8}$" stitch, and a heavy-duty mercerized cotton thread. The depth of the set of the needle may be adjusted if it skips stitches—the fibrous quality of suede sometimes necessitates the needle's being lower than for soft, woven fabrics. It is important to guide leather more firmly than cloth and to become very sensitive to the natural variations in its texture in order to feed it quickly or slowly under the presserfoot. As one manufacturer said, "It's all in the fingers, it's all in the fingertips." Several tests of the stitching may lead to better work; a thin piece of paper under the suede during the sewing may be helpful also.

Finish the seams by pressing them out flat, using no moisture. Protect the leather from the warm iron with a piece of heavy brown wrapping-paper. A good brushing with a suede brush or sponge gives the final touch and also helps keep the leather clean.

Our next venture is into the exciting, satisfying realm of glove making. Once you feel the supple, silky elegance of fine glove leather you become a collector. After selecting the right piece—whether of velvety antelope or mocha, the flattering glacé kid or cape, the tough but supple peccary—you face the exacting task of adjusting the basic pattern to the individual hand—one of the keys to a perfectly fitting glove. If the classic French style pattern is adhered to, the adjustment is quite routine. That is, from a careful tracing of the hand it is relatively simple to adjust the set and length of the fingers and the thumb, to make extra allowance in width for the firmer leathers (and for additional seams or silking), and to style the upper glove or cuff. However, if the structural style of the glove is changed it must be in accordance with the principles of glove pattern drafting. This may be too confusing for the first pair. The final adjusted patterns are cut accurately from bristol or tag board—on trank (or hand) pattern, one thumb pattern, and a pattern for a pair of fourchettes.

Locating the patterns correctly on the properly stretched leather is a second very important key to successful glove making. The greater stretch of the leather must go around the hand (which puts it across the patterns). Great care must be exercised in planning all the necessary parts for one glove in just the proper location on the leather, then reversing the patterns to obtain the necessary parts for the matching glove—in all, one right and one left hand, one right and one left thumb, and six pairs of fourchettes, plus facings and trims. After marking each part accurately on the wrong side of the skin by tracing around the patterns with a delicate pen line in washable ink, cut out the parts along the tracing with very sharp scissors. Careless cutting brings disaster.

The third key to beautiful gloves is the hand sewing; a stitch appropriately selected and carefully spaced effects an edge and a finish no machine can duplicate. Careful precise stitching will prevent undue stretching and puckering in the seams. A #6 or #8 between needle, buttonhole silk or similar size mercerized cotton, and a thimble are all the equipment necessary unless hems or facings are blind-stitched in place. Then a #12 between needle and plain mercerized thread to match are used.

Gloves are of black capeskin.

Sandal and moccasin making are a popular project. These of natural cowhide are designed for sturdiness and comfort; others are more open, have lacings, straps and loops, simply and ingeniously constructed.

There are many schools of thought on the proper procedure for sewing gloves together. No matter what system is used three points, if religiously observed, will more than double the life of the glove. First, reinforce the ends of the slashes betwen the fingers and in the thumb with a bar stitch; second, knot or splice the thread in as few places as possible and wherever there is the least strain; and third, run the ends of the thread (after tying the knot on the inside of the glove) under four or five stitches in the seam before cutting it off.

After the stitching and all hems, facings, pipings or trim have been sewn in place, pressing or "laying-off" will give the necessary professional finish. Dampen the gloves by laying them between dry paper towels rolled loosely in a damp cloth, for one-half to one hour. Then pull them lengthwise into position, with the fourchettes folded in and the thumb folded over the palm, to dry.

For centuries men and women have enjoyed the convenience of pouches or handbags hung from the girdle or belt, the shoulder, the arm, or clutched in the hand. Styles have changed with every generation, but the purpose has remained constant—to serve as a carryall for money and gadgets. This and many other considerations are to be observed when designing a handbag, which is an ambitious undertaking for a novice. It demands a wide knowledge of fashion trends, of materials and of technical processes. None of these can be mastered by making one or two leather-lined leather bags.

The making of a custom bag and of a manufactured one calls for entirely different thinking and procedure. In the former, the customer expects her personal whims to be catered to, without regard to cost of material or labor. She may have the bag in any color, size or styling within the limitations of the leather selected. The manufacturer of handbags is understandably unsympathetic toward this lack of regard for cost. He would not be in business unless he considered every step in terms of dollars and cents —the square footage of material to each unit, the speed and facility of production, adaptability of the construction techniques to his specialized skilled labor and equipment, and the availability of specially-designed hardware or extra fittings. Everything he does channels his particular item into a specific price range which must compete favorably with similar lines of other manufacturers.

But our problem is in terms of a custom-designed piece. Three major considerations move hand-in-hand as the idea or design develops, each one influences the others and is influenced by the others: 1. the over-all style or character of the article; 2. the choice of material; and 3. the method of construction. As in all successful designing, these three elements must be granted equal importance as they constitute a balanced whole. After due consideration, material is chosen from the many grain leathers available for bag making—calf, goat, kid, pig, elk, cowhide, ostrich, alligator, reptile, seal, and from the suitable lining leathers—glazed kid, suede, cape, skiver or buffing.

The original concept of the bag has determined the selection of the leather, which in turn will more or less dictate the method of construction. A careful study of constructional techniques often reveals that the article's entire shape or character may be achieved through a clever cut of the pattern or the boxing of a seam.

Generally speaking, there are four distinct methods of construction. 1. The turned bag, stitched wrong side out with or without a welt in the seam and then turned, requires a supple leather. 2. Handbags that are outside-stitched often are more casual in styling and may utilize glazed or heavy leathers such as saddle leather and cowhide. 3. The built-up method is an economical process. Currently popular box bags are evidence of its adaptability to mass production. Lightweight leathers used are reinforced by a chip board foundation, and no stitching is necessary because all the parts are glued together with rubber cement, latex or a similar adhesive. 4. There is the molding technique (more prevalent in Europe than the United States) whereby leather is formed to a shape while wet and, after drying over the mold, retains that shape permanently. The smooth graceful lines of a molded bag enhance the beauty of the leather—vegetable tanned calf, cowhide, kip, and others of firm fiber. No matter what the construction of the bag, the leather must be skived or pared or thinned or grooved for flatter, smoother turning of the seams, edges and welts. Also, a reinforcement or inner lining of some sort is used to control the degree of softness or firmness. This may be anything from a very light linen or inexpensive thin leather fastened to the seam to a heavy leather or chip board used as the main foundation in construction. Light cardboards or papers or buckram should be avoided; once they are beat the contour of the original design is lost.

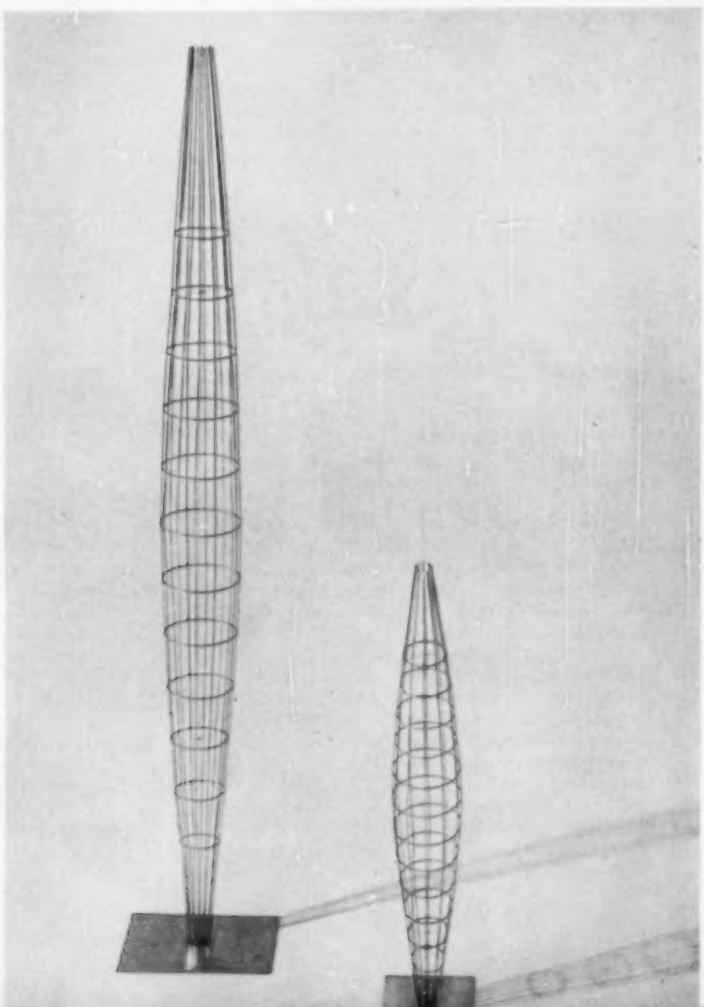
The basic purpose of a handbag demands constant consideration through all phases of the designing and must not be sacrificed for mere novelty. Facility in opening and closing, an adequate aperture and security of fastening are of paramount importance. Bag frames are difficult for the untrained to master. Zippers, though easily installed, are not conducive to creative designing and inexpensive clasps may make an article look like a factory second. The more individual fasteners are specially made for particular manufacturers, and are therefore unavailable to the public. The only solution is to design and make a metal fastener, or better still, a leather one—a tongue and keeper, a leather strap or some other device which becomes the unique feature of the bag.

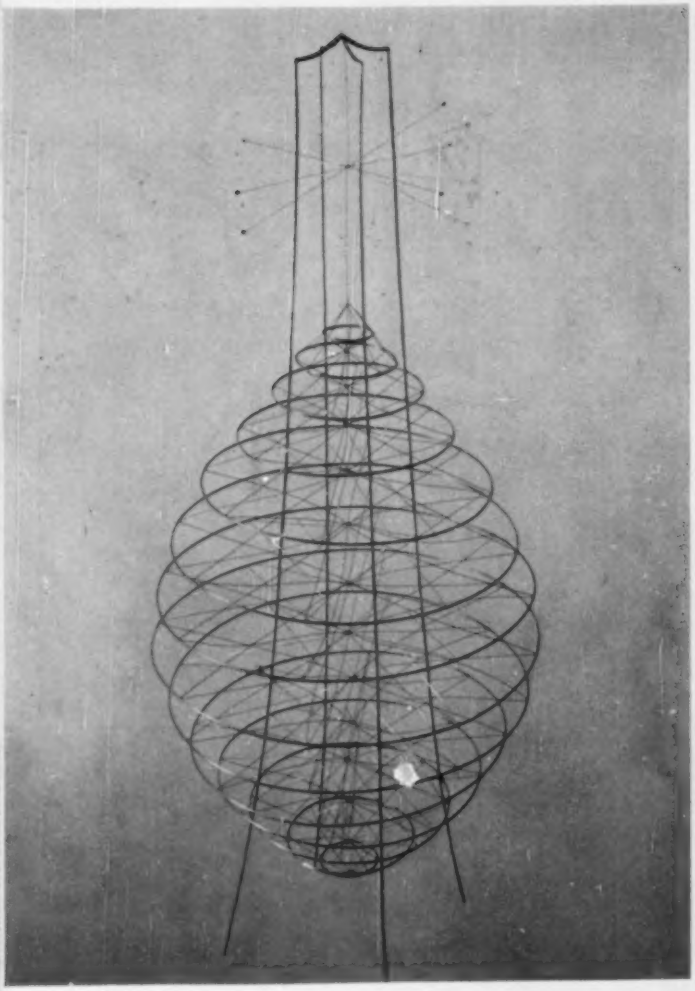
Factory procedure in bag making requires that a trial model be made of leather under the supervision of the designer and the business manager. The student who cannot afford to make a trial run of his ideas in an expensive material should make up a dummy of muslin or heavy paper or whatever best parallels the eventual article. In this way he will readily find the pitfalls in his thinking. Tests in scrap leather of all seams and questionable points of assembly will save him expensive material and time and nervous qualms. Each student is required to plan and outline the best method for his particular handbag after he has completed these tests and experiments and has made his dummy.

In our brief ninety hours of classroom instruction we can only study those fashion accessories which are also important as articles of wear. Through this course, it may be that the manufacturers of leather goods will be more appreciated for giving us the greatest selection of coordinated fashion accessories in the world. Perhaps also those of our students who are striving to become fashion designers will be more realistic in developing ideas that skilled craftsmen can interpret. Those in art education will continue their exploration in leatherwork and may teach it more creatively; and those without specific professional objectives will stimulate interest among their friends in an avocation which might become a vocation.

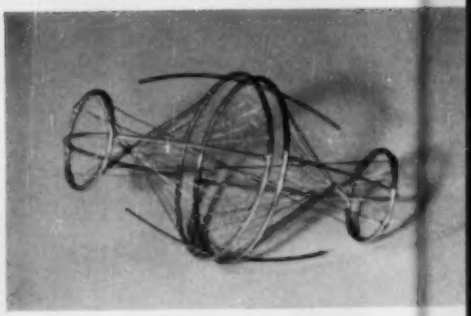
designing in SPACE

Richard Lippold began working as a self-taught sculptor ten years ago. Formerly an industrial designer—he majored in industrial design at the School of the Art Institute in Chicago—Mr. Lippold now is head of the art department at Trenton Junior College in New Jersey. He has taught art at several schools, including the University of Michigan and the Layton School of Art in Milwaukee. He has had four one-man shows at the Willard Gallery in New York, and his wire constructions are in many private and museum collections including the Museum of Modern Art. In an age when the pursuit of space and time is of the most immediate interest to men, Richard Lippold loves space most of all materials. He delights in describing his feeling for space by the slenderest means possible, generally by delicate wires—traveling into space, as he expresses it, through the seduction of the pleasantest materials he can find: polished metals, silver solders, intriguingly-shaped wires—square, hexagonal, ovoid. Traveling along these good-feeling materials to the interior spaces of his work, into that void which, he believes, is the artist's domain, he finds revealed statements of the relationships in life of things to each other, made by certain particular relationships of space and metal. This is the seventh in the design series, presented visually.



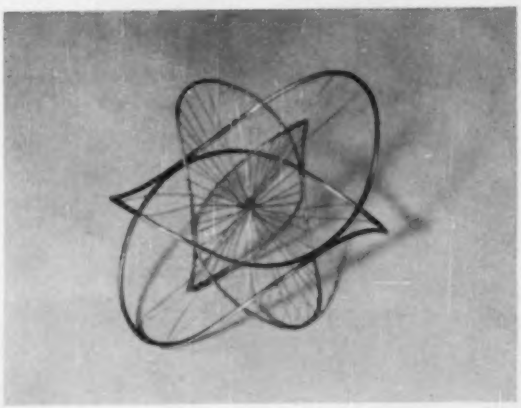


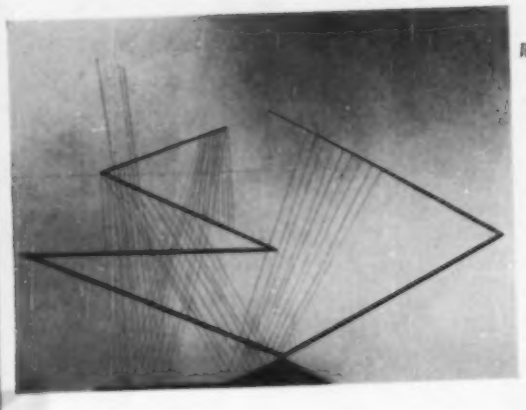
Left: New Moonlight, 1946



Above and below: Two Eggs, 1952

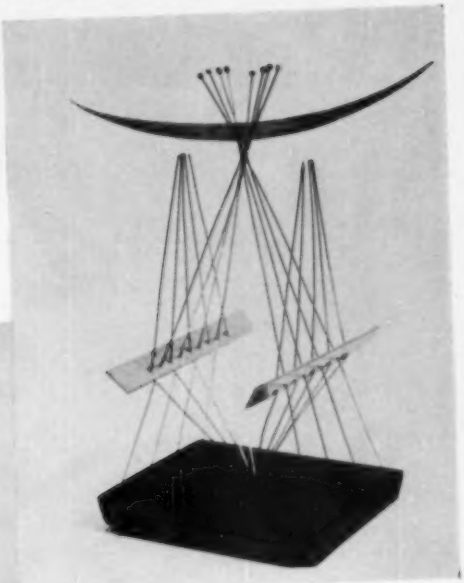
Left: Devotions I and II, 1948-1949

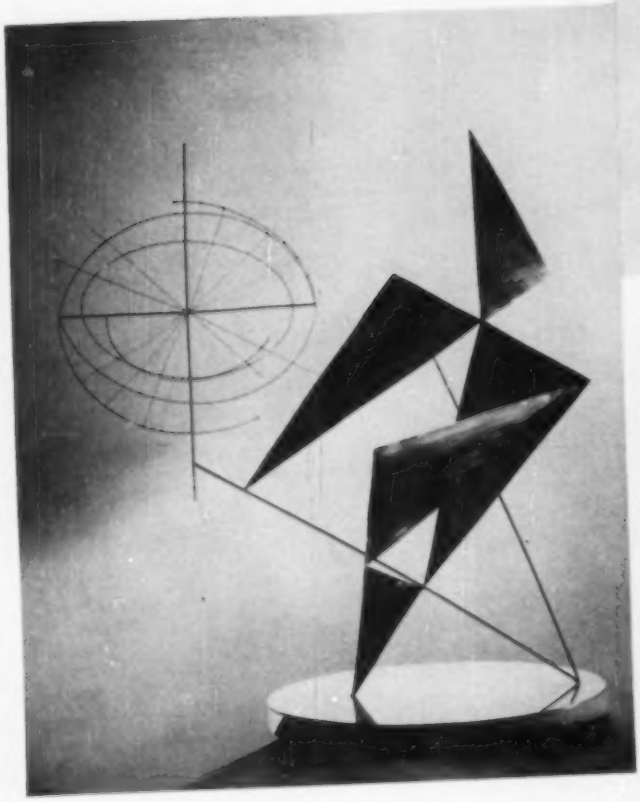




Whisper, 1948

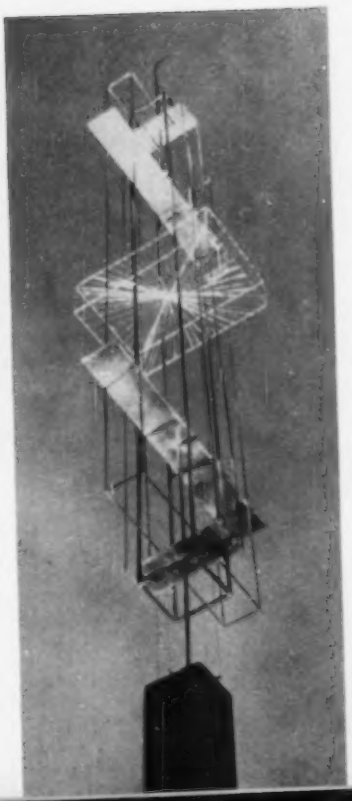
The New One, 1947





Juggler in the Sun, 1951

Alone, 1952, brass nichrome



Lili Blumenau, formerly Keeper of the Textiles at the Cooper Union Museum, is herself a distinguished handweaver and teacher of weaving. Working with architects and decorators, Miss Blumenau has evolved textural patterns, sparked with color, for draperies and upholstery.

Textural patterns for the Weaver

BY LILI BLUMENAU

A TEXTILE has three basic elements—yarn, weave, color. Some weavers put the emphasis on texture, grouping heavy yarns and novelty fibers. Others put weave first, rather than the yarn itself. For some, color is the whole story. A designer, talented in one or other of these ways, is likely to follow his bent throughout his weaving. Specific or geometric arrangements, however, depend upon the weaver's ability to combine warp and weft colors with weave. He must know how to vary the fundamental interlacing for geometric effects. For example, if a 2-and-2 twill is used with three black and three white in warp and weft, a stepped pattern results; the combined black warp and weft float on the surface and instead of a twill line a diagonal zigzag effect emerges.

Basket weaves may be transformed into star-like patterns. A herringbone may be woven to appear as dark net on white. Weavers striving for technical skill in weaving geometrics will profit by experimenting with color weaves on design paper and doing their preliminary work on the loom. This sort of preparation leads to fresh ideas. It also puts the craftsman in control of the result—through his thinking in terms of threads, weaves and colors—before he starts weaving.

There are many ways to plot color on design paper, but from the beginning the weaver must give close attention to the distribution of color in relation to weave. In the draft reproduced here, the color layout consists of 1-dark-and-1-light, alternating in warp and weft. The weave is a 2-and-2 twill. Usually one begins color-drafting with the entering draw. The spaces between the horizontal fine lines of the draft paper represent the harness. Each shaft may be numbered on the left side of the draw. This example requires a four-shaft straight draw.

The weaver begins by filling in a dark square, representing the first dark threaded end on the first shaft (Figure A on page 39). The light threaded end is represented by a light square on the above row, harness number two. Alternation of dark and light continue until the fourth square is filled and the unit is repeated. A few rows below the threading draft a 2-and-2 twill is marked either in dots or lines. This is done quite lightly so that later, when the color is put on top of the weave, the marks are not visible. In the lengthwise row below the shaft numbers, on the left side of the weave, weft colors are designated. There is one filled square at the beginning of the first weave row and a light one below it for the second weft. The other picks show their respective colors at the beginning of each line.

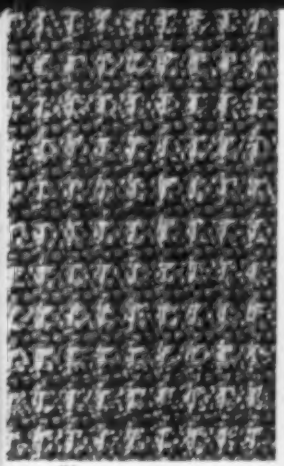
In the design in Figure B warp shades are filled in for the raised threads. The first dark thread, from top to bottom, goes over one weft and under two, then over two and under two wefts. The second light thread covers two wefts, goes under and over two wefts, and under one. This is done for two repeats.

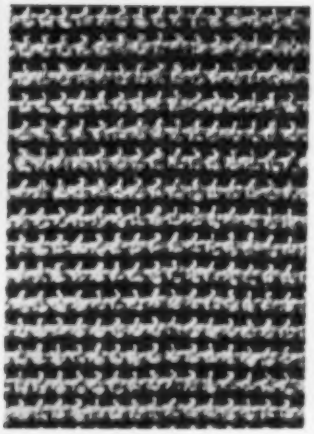
The customary drafting of a weave construction on design paper consists of filling only the squares representing raised warp ends. This differs in the color and weave design method in which, in order to get a general design effect, the weft squares are also designated in their respective color values. This is done from left to right, in the weft direction, beginning with the first row on top of the weave (Figure C). The third and fourth warp thread are down on this row, covered by a dark weft, as seen in the third and fourth dark squares. In the next row, the light weft covers the first dark warp thread and the fourth light one. The third row has a dark weft which covers the first and second warp end. The last pick of the repeat covers the second and third end, with the light thread completing the draft.

Taking separate steps, as described here, is the best way to learn color drafting. Later, with more experience, the designer needs only a threading draft, in specific color values, on which he draws the weave below and, to the left, a weave color layout. On this draft he will designate warp and weft colors on top of the weave, row by row, in the same way as the work is done in actual weaving. The marking procedure should be from left to right.

In the color draft the weaver no longer recognizes a conventional twill, but is able to see the real geometric structure. Further design thinking will reveal that this pattern will be small if 30 to 40 ends of fine yarns are taken. If a larger size is desired the designer needs heavy yarns and less ends per inch. Other important observations come from studying color draft. The dark yarn which forms the stepped pattern may be nubby or heavier than the lighter background thread. This creates a more irregular texture. In some cases, varying tones may be used for the light background, the dark being kept uniform. A light yellow, one black, one light gray, and one black could be used until the repeat is done. Such are only the initial thoughts for further ideas in yarn and color variation, using the same draft. The designer, in the given example, is to some extent technically free and can concentrate on effect. He knows that a 2-and-2 twill is a good construction.

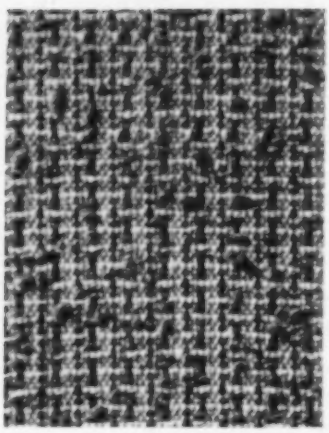
Distinct weave and color combinations, or mixed darks and lights, can only be achieved by a weaver through intensive study and practice. An experienced weaver will

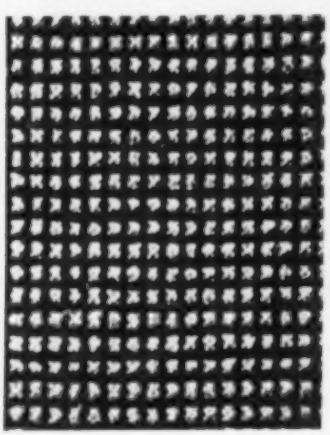


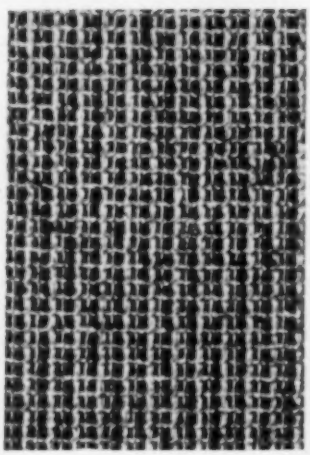


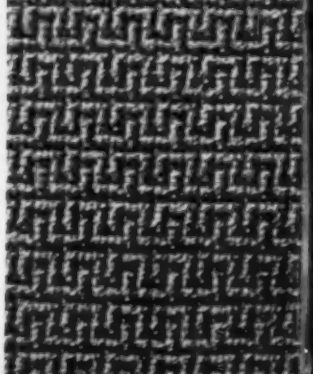
be able to interpret his ideas through basic weaves and, instead of taking one shade throughout the warp, he mixes the yarn coloring. For example, a plain weave can be used for upright and lengthwise striping. A warp made of dark and light alternating ends creates thin upright lines when a dark weft is used in a shed of raised light ends and the light weft may be thrown when the odd-numbered ends are raised. This procedure reversed achieves crosswise lines. The darks are raised and a dark weft is required and, when the light is on top, light wefts are used. Both ways combined in one design make strong effects. Half-inch upright and two-inch crosswise lines in one pattern give further line variation and a typical weaving structure. Variety of raw material, or a combination of plain and novelty yarns, may enhance the idea. In "Log Cabin," a well-known horizontal and vertical line combination, the warp layout alternates in dark and light for one or two inches, and has two light alternate ends for one or two inches until two dark threads bring the weft coloring in another order. This creates squares by mea. . of plain weave in relation to color.

Wider and more irregular line structures require other weave and color layouts. Basket weaves and twills may be transformed in rope-like and wavy-line effects without showing the weave. An example of bold lengthwise lines with small dots between them is illustrated in Figure D. Here a basket weave is used. The coloring in the warp is 4-dark-4-light. When the first and second shafts are raised a light weft is taken; in the third and fourth, a dark one is needed (Figure D). When a horizontal geometrical design is desired, a weft or other twill may lead to a good solution. Such an experiment is shown in Figure E, in which the light threads come on the first and fourth





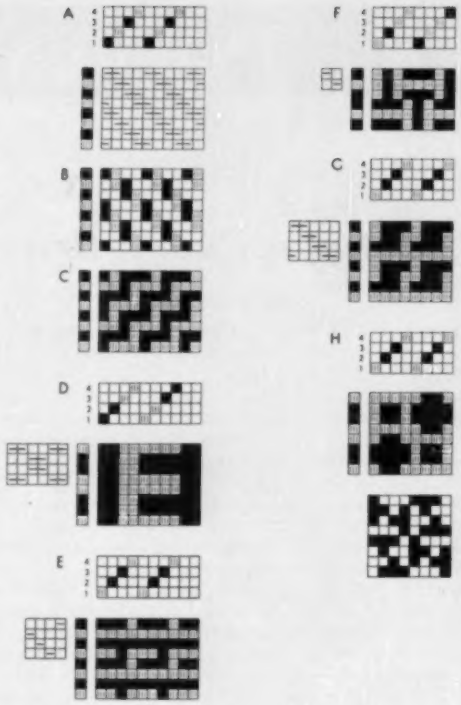


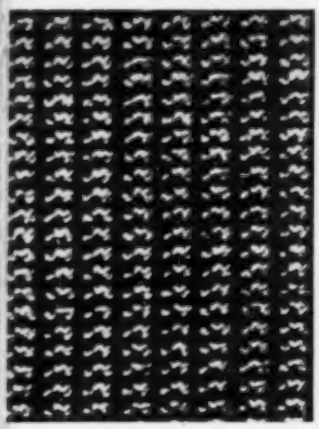


shaft, the dark on the second and third. The weft alternates one dark and one light. When the first light thread is raised a solid line is created, light in warp and weft. On the second row the dark threads are raised and the filling is also dark; thus a solid dark line appears. But, on the third and fourth weft, the horizontal lines are interrupted to create a variation, accomplished by reversing the warp raised color and weft tone. The third pick brings out a light line and a dark spot from the raised dark warp. The reverse, or dark pick, brings out of the fourth end, or light warp, a lighter tone.

The typical color plot for shepherd's check is 4-dark-4-light in warp and weft, woven with a 2-and-2 twill. This classic material offers special opportunity for working in checks. Changes may be made by placing the weave in different positions in relation to color. Checks are by no means confined to 2-and-2 twills in their normal coloring. New types may be created by using reversed lengthwise twills, irregular basket weaves, and other interlacings. Simple 4-light-4-dark checks may be varied when large squares are wanted, horizontal and vertical lines being combined in any desired space. With a 2-and-2 twill, for example, the warp is threaded 2-light-2-dark, 20 ends per inch, and the color reversed after 40 threads, producing checks two inches wide. The weft color order is also reversed after 40 picks to produce the horizontal band. The product can also be changed by using basket weave and twill in alternating squares, or by combining irregular basket weaves with twill variations.

Bird's-eye and spot effects are used typically in clothing fabrics and decorative textiles. A weaver may discover in these forms new variations with light and dark tones. Some dotted patterns resemble basketry and can be made in plain weave. The coloring order may be 2-dark-2-light in the warp, with 1-light weft alternating with 2-dark (Figure F). An allover effect with small stars results when plain weave is colored 2-dark-2-light in warp and weft. A larger spotted pattern may be outlined in fine white lines by using 2-and-2 twill for the interlacing. The spots and light uprights are made by wefts 1, 2 and 3. The fourth weft makes the horizontal light outline of the spots (Figure G). Fancier dotted styles may be large or small, according to the designer's purpose. Small-square variations, in opposite shadings, are formed by using small white squares with a dark dot in the center, alternating with solid dark squares in one row; the next row is reversed (Figure H).





Decorative textiles for interiors by Lili Blumenau are handwoven in combination weaves, based on the constructions given in the article—patterns through texture, accented with ingenious use of color. The charted weaving instructions apply to the text, not to the swatches.

Stepped patterns are frequently used in clothing fabrics. Warp and weft, in these designs, form zigzag lines which run diagonally, the dark and light zigzags sometimes of the same width, or one bolder than the other. Twills and their derivatives are the foundation of weaves in stepped designs; color variation is according to choice. In most cases the variation of color and its values are the same in warp and in weft. Short color repeats produce small zigzags, larger units, bolder ones (Figure A).

Use of color values in weave designing, by means of draft paper experiments and loom preliminaries, is essential to the production of fresh, new forms in textiles for both interiors and the clothing industry. This practice is important to weavers who are interested in textile principles and organic design. A good craftsman is always willing to give time and effort to the transformation of yarns, weave and color, using any means he can discover to create a better piece of fabric.

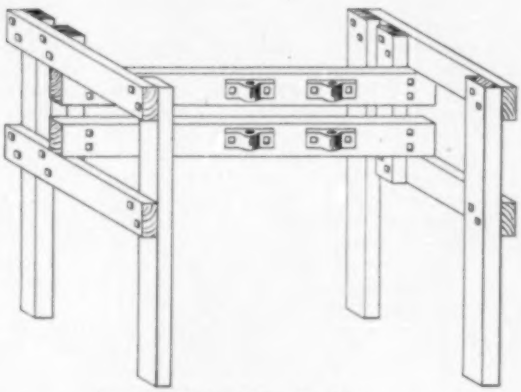
THE WORKSHOP

Making a Power-Driven Wheel

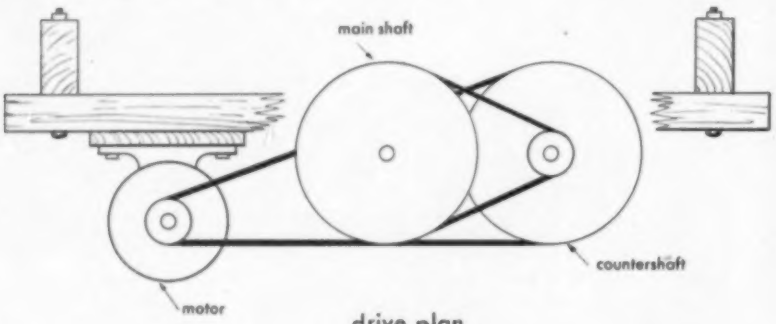
BY PAUL ST.-GAUDENS

It is no great problem to make up a good, constant speed, motor-driven potter's wheel from parts which can be bought wherever a full line of home workshop supplies is available. Mail order firms carry most of them, others can be got from mill supply houses, and some pottery supply companies carry throwing heads. Well stocked junk yards are often good sources of parts. Materials and parts for the plain bearing wheel described will come to around $65 at current prices, everything new. That can be reduced by ingenuity and canny buying. The tools needed are: brace and bits (or drill press), saws, carpenter's square, yardstick or rule, hammer, wrench, screwdriver, plane and chisel, plus practical ability to use them. Reasonable accuracy is required, but fine joinery is a matter of esthetics only. The list of parts and materials is:

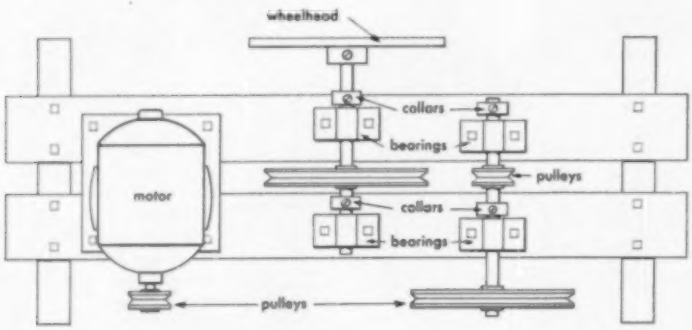
1. A 10" to 12" sanding plate (or regular throwing head) for $\frac{3}{4}$" shaft of iron, steel or aluminum. 2. Two $\frac{3}{4}$" cold rolled shafts, 14" long. 3. Four $\frac{3}{4}$" pillow blocks (bearings). Solid bushed or babbitted are good,



frame with bearings in place



drive plan



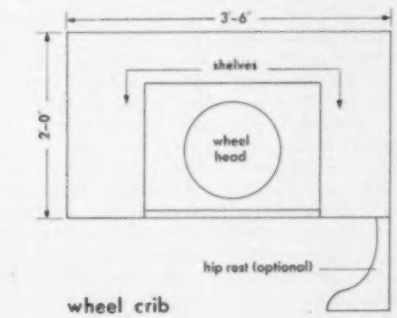
split ones are better, and ball or tapered roller are best as well as most expensive. 4. Four ¾" shaft collars with set screws. 5. Two cheaper grade ball thrust bearings to go under top shaft collars where plain bearings are used. (Not essential, but advisable.) 6. Two 2½" V-pulleys, one ¾" bore, one to fit motor. 7. Two 10" V-pulleys, ¾" bore. (2" and 8" can also be used, or any practical combination of sizes to give an over-all reduction of 16 to 17 to 1.) Iron or steel is best, but heavy die-cast metal will do. 8. Two "A" section V-belts, one 42" long, one 64". 9. Three 12-ft. lengths of straight, clear 2x4. 10. One 1x6 clear stiff board, about 8 ft. long. 11. Two dozen $\frac{5}{16}$x4½" carriage bolts; eight $\frac{5}{16}$x6½" carriage bolts; one dozen $\frac{5}{16}$x2" lag screws; five dozen $\frac{5}{16}$" flat washers; bolts for motor and bearing bases as required. 12. One flange for 1¼" pipe, with about 1½" nipple; lumber for bracing, crib floor and floor strips; clear boards for shelves; rib lining to size of finished crib. (See later.) 13. One *ball bearing* ⅓ H.P. motor, 1725 RPM; sturdy snap switch; extension cord for wiring.

Such lists as this are never quite complete, but this covers the main essentials.

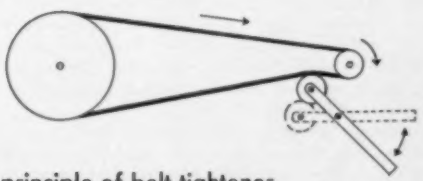
Construction.

Measurements are often indefinite in the plan because no two sets of parts will be quite the same, and exact inches are unimportant if the basic design is followed. Some builders will wish to alter dimensions for reasons of shop space, while others may have sound ideas for improving things. Note that all joints have two bolts for rigidity and that there are flat washers under all nuts and lag screws throughout.

The "backbone"—the frame carrying the shafts and motor—is made of the straightest and stiffest 2x4's, accurately squared up and firmly bolted. Over-all length is shown as 3' 6", with the end pieces set back the thickness of a 2x4. Long pieces are 2" apart and the end pieces extend the width of a 2x4 above and below. (A 2x4 is very rarely 2 inches by 4 inches.) The main (wheel) shaft is centered on the backbone. Bearings must be



wheel crib



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exactly in line or they will bind, so it may be necessary to align them by shimming under base edges with strips of thin sheet metal. Set nuts hard to test alignment.

The countershaft is placed about 10" to the right, with the 42" belt on the pulleys to check position. If the bearing bases aren't slotted for sideways adjustment, the frames should be, say, 1½" slots. Some motor bases will bolt directly to the frame, but usually a board is bolted to the frames and the motor bolted to that. The motor is positioned by the 64" belt on the pulleys and the board slotted for either motor base or frame bolts, whichever is easier. (Motor rails (mounts) with built-in adjustment can be bought if preferred.) Now everything except bearings and motor mount is removed for easier working.

The backbone is framed into the 24" cross members to bring the wheel shaft 3" ahead of center, subject to need or preference. (A 12" wheelhead in a crib 18" wide would need to be centered for rim clearance at the front.) Legs should be about 32" long for a short potter standing at his work, 34" for middling, and 36" for tall. Height for sitting will depend on the height of the stool or bench preferred. 30" is average. Leg tops are flush with the frame top. Square the legs with the frame in both directions, and tighten all nuts hard.

Now is a good time to install the drive assembly. The wheel belt is snugged up first by shifting the countershaft, then the motor belt is snugged by shifting the motor. Shafts must be parallel with each other and square with the backbone, turning freely. The main shaft is set to bring the top of the wheel head just above leg height, say ¼". Pulleys must be in line. Then all collar and pulley set crews are turned up tight. The wheel is removed while making the crib. The 1x6 side boards are fastened flush with leg tops by 3 lag screws at each end. This completes the framing. If the assembly shows lack of rigidity in any direction it should be stiffened with diagonal bracing of 1x3 or 1x4 lumber from backbone to frame, keeping clear of belts and pulleys.

The crib floor can be any scrap lumber of uniform thickness laid across the backbone, the ends resting on strips nailed to the side boards. On this goes a watertight lining, with a hole for the wheel shaft. Tempered masonite, caulked at the edges and given a coat of waterproof varnish or enamel, does fairly well, but a pan made up from sheet zinc is better. It need be only large and deep enough to fit under shelf edges. It is very important to keep slush out of the bearings, so the pipe flange is set over the shaft, in caulking compound or on a sheet rubber gasket, and held down tight with bolts or screws. The nipple, just long enough to clear the wheel hub, is then screwed in tight.

Shelf widths are optional so long as they clear the wheel rim by 3" or 4", and rear shelf can be left off if wished. The hip rest is also optional, as some potters prefer to face their work, or to sit. Raised arm or elbow rests can be added if wished. And a throwing-gauge post can be set at the back of the crib, squaring it to bring the pointer to exact center.

A foot-operated switch is the most convenient; one that can be snapped on or off with the knee is next. A hand switch should be watertight, placed for quickest action.

The pulley ratios given will turn the wheel at about 100 RPM, which is a good average throwing speed. It can be raised with a larger motor pulley, lowered with a smaller one. A change of ¼" will make an appreciable difference. Rotation is counter-clockwise.

Maintenance is regular lubrication, occasional snugging up of a belt, and tightening nuts and lags now and then.

The above plans can be scaled down for lighter wheels, or scaled up for a heavier one. ⅝" shafts with fittings to match will make a practical wheel for a head not much over 10". Even ½" shafting and fittings with a 7" to 9" head and framed in light lumber will make a little table model for throwing small ware. A light-duty ¼ HP motor will turn it easily, using pulleys as small as 1½" and 6", but it will be pretty much of a toy. For serious production of large ware use 1" main shaft with the ¾" countershaft, both 18" long, a 12", 14" or even 16" wheelhead, 2x6 framing and 4x4 legs. The motor should be ½ HP, and pulleys of iron or steel. This last wheel, of course, will cost more than the others.

The use of angle iron for the framing of these wheels is a sound idea for anyone familiar with metal work. Caution: never put a balance wheel on a power model for "smoother running"; it merely overloads the motor badly on starting and makes quick stops impossible.

Variable Speed

The ideal power wheel is one with easily regulated speed. This is a sticker. Light variable speed units can be bought from machine supply firms and installed in place of the countershaft, but the only ones I know about have three faults: they are slow to operate, can't be brought to a full stop, and normally operate by hand. Rigging a foot lever is some help, but not much. A simple friction clutch is better, but hard to find in ready-to-use form. It should be spring-held in "stop" position and engaged by a pedal. One from a lightweight motorcycle might serve well if the spring action were reversed and lightened. The small split V-pulley clutches used on some power lawn mowers have possibilities. Agents for such mowers could supply them.

The old loose belt and belt tightener is a simple device for speed control. The drawing shows the principle. It works best with flat belt (1" or 1¼") on flat, flanged pulleys, but also does well with heavy (say ⅜") round belt on grooved pulleys. It will work even on V-belt and V-pulleys if enough slackness can be got without the belt falling off. The roller, 3" in diameter more or less and preferably ball bearing, presses the belt in just behind the driving pulley, on the slack side. The other end of the pivoted arm is linked by flexible cable or rods to a pedal on the floor, hinged at the heel end like a car accelerator. A coil spring holds the arm in "stop" position, and varying the pressure on the pedal should regulate the speed smoothly from zero to around 150 RPM. (An amateur machinist who had built a power wheel for a potter—also amateur—boasted that it ran smooth as silk at 3000 RPM. They are probably still scraping clay off each other—and the walls. Please be reasonable in your original bright ideas!)

The above plans and suggestions are not the only directions for making power wheels by a long shot, but they are simple, and the bulk of the parts and materials are easily obtainable. Not-so-standard parts can be got on special order or by mail. The rest depends on adequate workmanship and sense of construction. Good throwing!

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EXHIBITIONS

During March, the gallery at America House put on a show entitled "Easter and The Egg—An Historical Pageant for Young and Old", under the sponsorship of the American Craftsmen's Educational Council. More than 1000 children and grown-ups assisted with gusto, presenting hundreds of entries for competition in decorating eggs themselves. Starting with the worship of the Norse goddess Eostre, the exhibition traced the folklore of the Easter egg from medieval days to our own.

Carl Federer's own inimitable decorated eggs were displayed together with his unique historical collection gathered from many climes and ages. In addition, eggs by Rita Bolaffio and John Lowery were shown. A special highlight was a Fabergé egg made for the Czar, and loaned by Hammer Galleries, of dark blue enamel and gold, containing an aquamarine bunny with ruby eyes.

The enthusiasm of the young contestants was rivaled only by their talent. Two prizes went to persons aged six —and quite remarkable they were for originality and dexterity of hand. The jury, consisting of Rita Bolaffio, Sydney Butchkes, Carl Federer and Mary Lyon, put in a really rugged hour arriving at momentous decisions. Renée Montague presented the awards.

A notable event in the ceramics world was the exhibition at the America House gallery in April of the works of Bernard Leach, eminent British potter. This showing terminated a tour of 23 cities in the United States, starting February 19, 1951, at the Institute of Contemporary Arts in Washington which sponsored the project. The showing was comprehensive—selected from a total of 350 pieces—and was widely attended, not only by potters, but by lovers of all the arts and crafts.

No man has had a more profound effect on the ceramics of his generation than Bernard Leach. His passion for pots, simple in shape but satisfying because of their purity, has crossed the limits of oceans. His close association with Hamada of Japan, in particular, has influenced his work towards austerity softened by the richness and subtlety of his glazes. His workshop, The Leach Pottery at St. Ives in Cornwall, England, has pointed the way towards successful cooperative ventures.

For one month starting May 14, the Oregon Ceramic Studio of Portland, Oregon, is showing ceramics by artists of the Northwest. On the jury of selection and awards are: Edgar Kaufmann, Jr., of New York, Edith Kiertzner Heath, Sausalito, Calif., Frederic Littman and Lydia Herrick Hodge of Portland. Entries include pottery, ceramic sculpture and enamels produced by the craftsmen of Oregon, Washington, Montana and Idaho. There is one sculpture award of $100, and eight prizes for pottery and enamels ranging from $25 to $100. This is the third annual event in the series of Northwest ceramic exhibitions at the Oregon Ceramic Studio.

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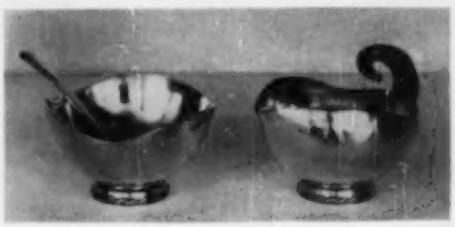
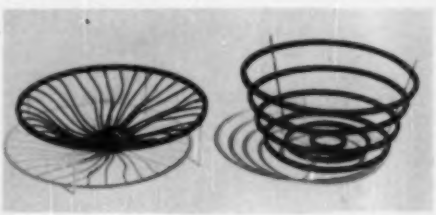


Sterling silver pieces by Rufus Jacoby.



Wm. Steinmetz' leather thong basket, plastic ring bowl.

The Baltimore Museum of Art, in its first exhibition of the handcrafts of Maryland, showed 130 items—one third of the total number of entries. The jury, consisting of Paul V. Gardner, curator of ceramics at the Smithsonian Institution, Bertha Schaefer of the Schaefer Gallery in New York and Kathryn Wellman, director of arts and crafts at the Pennsylvania Hospital in Philadelphia, were impressed with the high quality of craftwork submitted. Basing their selection on originality of design, as well as workmanship, they specially commended the work of Edith Cummings, Mrs. Philip N. Healey, Virginia Seabolt, J. W. Anderson, Betty Cooke, William Steinmetz, all of Baltimore, and Rufus Jacoby of Hyattsville, Maryland. The majority of the entries were in textiles and metalwork, but included ceramics, woodwork and leather. The exhibition ran from March 16 through Easter.

An interesting project at the Museum of Modern Art is an exhibition, embracing handcrafts, which compares de-

sign of the 'thirties with that of today. "New Design Trends," showing eleven pairs of comparable objects, has been organized and installed by Greta Daniel, assistant curator of the department of architecture and design. It will be on view on the first floor of the Museum through June 1. Chairs by Corbusier and Finn Juhl, flower containers by Alvar Aalto and Paolo Venini, bowls by A. D. Copier and Vera Liskova, ashtrays by Frederick Carder and Luigi Fontana, platters by James Prestini and Tapio Wirkkala are a few of the contrasting pairs which readily illustrate the shift in the past twenty years from pure geometric forms to greater fluidity of line and shape.

The Chicago Potters Guild recently paid tribute to Anna Wetherill Olmsted, director of the Syracuse Museum of Fine Arts and founder of the National Ceramic Exhibition, recognizing her twenty years' service towards the development of ceramics in this country. The event was scheduled at Marshall Field's to coincide with the opening there of the National Ceramic traveling exhibit. The store also was celebrating an anniversary—its 100th.

Tips for Craftsmen

The building materials division of Armstrong Cork Company, Lancaster, Pennsylvania, will supply free on request complete specifications for small electrically heated potters' kilns. While this blueprint is furnished without charge wholly for the convenience of customers, the Armstrong Company is not a kiln designer and does not accept responsibility for the design, operation and performance of the kiln presented. The company is concerned solely with supplying a high grade of insulating fire brick and refractory cement. A competent electrician should be consulted in the installation of the electrical wiring since special requirements must be met to avoid overheating of the electrical line.

For the potter who designs his own kiln, the Philip Carey Manufacturing Company, Inc., Lockland, Ohio, will supply sheets of asbestos cement, cut to the purchaser's specifications. This is for the outer construction of the kiln itself. They are also prepared to furnish insulation in sheets of 85 percent magnesia, also cut to measure.

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THE BOOKSHELF

Of General Interest

BEAUTY BEHIND BARBED WIRE by Allen H. Eaton, published by Harper & Brothers, price $6. Mr. Eaton's new book on handcrafts is an impressive picture-story of the arts of the Japanese-Americans and how they were created and preserved in the war relocation centers during World War II. Ninety-six pages of photographs show, even without benefit of accompanying commentaries, the fascinating products of the Nisei's ingenuity and sensitivity in ten scattered mountain and desert camps: woodcarving, embroideries, ceramics, cut and polished semiprecious stones, toys, weaving—all sorts of articles skillfully devised from whatever natural materials were at hand.

BAUHAUS 1919-1928, edited by Herbert Bayer, Ise Gropius and Walter Gropius, published by Charles T. Branford Inc., price $5. This reprint is an authoritative and lavishly-illustrated handbook of the Bauhaus school, its credo, masters and influence. The editors have comprehensively stated the aims of the movement and have then allowed the masters of the various crafts to speak for themselves and their crafts. The history of the school is briefly sketched, first at Weimar and then at Dessau, with descriptions of the courses of study, extra-curricular activities, and even press criticisms of the entire movement. It is a valuable piece of work, especially for artists living with concrete examples of the Bauhaus influence without fully realizing the sources.

OLD FRENCH IRONWORK by Edgar B. Frank, published by Harvard University Press, price $6. This book, written by an enthusiastic collector of small ironwork of the Middle Ages and Renaissance, includes photographs of great variety taken from his own collection. The book was first written in French because, the author says, it was in and around France that small ironwork was most common and also most appreciated. However, this is much more than a collector's account of his success. In the first place, his style is intimate and so full of love and enthusiasm that he makes the ornate iron keys seem still quite warm with handling. He has arranged his book into chapters on tools, locks, keys, caskets, bag frames and so on, all carefully explained and documented. While the material is of great interest to the historian, it should also be useful to the student of design.

HANDICRAFT PROJECTS FOR PROFIT by Robert Scharff, published by McGraw-Hill Book Company, Inc., price $4. This is a compendium of information for the individual who wishes to start a profitable hobby. Mr. Scharff gives detailed guidance on the business side of the crafts—from the type of organization to set up, the economic buying of materials, packaging, pricing and marketing to record-keeping and the government regulations and taxes controlling small handcraft businesses.

The body of the book is devoted to general handcraft

techniques, including such subjects as woodwork, metalwork (surface design and simple jewelry and enameling), leathercraft, lampshade making, shellcraft and others. There are special projects for home use and for the sportsman, such as fly-tying and the making of decoy ducks, with special sections on necessary materials and equipment and where to find them.

The book is clearly directed to the hobbyist rather than the professional craftsman: little stress is put upon originality and excellence of design which is the hallmark of the artist-craftsman; nor is there any attempt to instruct in advanced techniques such as the raising of hollowware or throwing on the wheel. It will, however, be most useful in the field for which it is written. Not the least of its contributions is its copious bibliography and its appendix which lists suppliers to all the crafts and country-wide retail outlets for handcraft products by states.

On Techniques

CERAMIC GLAZES by Cullen W. Parmelee, published by Industrial Publications, Inc., Chicago, Illinois, price $7.50. Professor Parmelee has prepared after many years of research a highly technical study of every aspect of glazing which should be an extremely useful reference manual, both for the student and for the professional ceramist. Typical chapter headings are Glaze Materials, Calculations, Mixing and Milling, Engobes, Slips and Underslips, Underglaze and Over-Glaze Colors, Conversion of the Batch to the Glaze, Fritted Glazes.

CHAINS AND BEADS by Greta Pack, published by D. Van Nostrand Company, Inc., price $3.25. A follow-up of Miss Pack's "Jewelry and Enameling," this work manual is concerned entirely with ways of combining and joining links, rings, units and beads. It is an indispensable handbook for the craftsman already familiar with the techniques of jewelry work. Both the numerous working drawings and the directions in the two sections—which include construction, working materials and processes in the form of lists—are properly detailed and easy to follow. Suggestions for various ways to combine units should help the craftsman to make his own designs.

HOW TO MAKE OBJECTS OUT OF WOOD, published by the Museum of Modern Art, price $2.50. A new handbook in the Art for Beginners Series, which includes "How to Make Modern Jewelry" and "How to Make Pottery and Ceramic Sculpture," both of which should be helpful to the interested novice because of their graded projects, numerous photographs of work in progress and simple diagrams. This latest book is actually an over-all introductory course for the would-be woodworker. It covers tools and materials, design and simple construction in cabinetmaking—the most advanced project is a desk—toy making, turned objects and models.

SILK SCREEN PRINTING by James Eisenberg, published by McKnight & McKnight Co., Boston. Mr. Eisenberg has written a very careful and generous book of instructions for the novice in silk screen printing. He not only explains in detail all the methods, but he shows how to make all the equipment needed in each one. It is a pity the illustrated results are not a little more inspiring, but as the book is written with an eye to commercial art, perhaps this was unavoidable.

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Pamphlets

Three technical pamphlets issued by the Engineering Experiment Station of the University of New Hampshire, Durham, New Hampshire, are of particular interest to potters and enamelists. Engineering Publication No. 1, MAKING AN ELECTRIC KILN, describes in detail, with diagrams, a kiln designed and constructed by the Station in cooperation with Mr. Edwin Scheier. No. 2, SMALL ELECTRIC HEAT TREATING AND ELECTRIC FURNACE, gives the construction of a unit for the firing of small ornamental enamelware and for the heat treatment of small tools, and No. 4, MAKING STUDIO ELECTRIC KILNS, gives details for construction of two kilns, outgrowths of No. 1. The price of Nos. 1 and 4 is 25¢ each and No. 2, 10¢. All three are written by L. E. Webber, Research Associate Professor of Industrial Engineering.

This bibliography has been compiled for rockhounds by Imogene Frost, who wrote "Rockhound on the Scent" on page 22.

Mineralogy: FIELD BOOK OF ROCKS AND MINERALS, by Frederick Brewster Loomis, 1923, G. P. Putnam's Sons.

GEM HUNTER'S GUIDE, by Russell P. McFall and Harry E. Chagnon, 1946, Science and Mechanics Publishing Co., Chicago.

STRANGE ADVENTURES OF A PEBBLE (for Junior rockhounds) by H. Hawksworth, Charles Scribner's Publishing Co., Inc.

INTRODUCTION TO THE STUDY OF MINERALS, by A. F. Rogers, 1912, McGraw-Hill Book Co. Inc.

MINERAL DEPOSITS, by W. Lindgren, 1913, McGraw-Hill.

GEMS AND GEM MATERIALS, by Edward H. Kraus and Chester Baker Slawson, 1941, McGraw-Hill Book Co., Inc.

MINERALS AND HOW TO STUDY THEM, by Edward S. Dana.

HOW TO COLLECT MINERALS, by Peter Zodac.

THE BOOK OF MINERALS, by Alfred C. Hawkins.

QUARTZ FAMILY MINERALS, by Dake, Fleener, and Wilson.

METEORITES, by O. C. Farrington, 1915, Lakeside Press.

Lapidary: A BOOK OF PRECIOUS STONES, by J. Wodiska, 1910, G. P. Putnam's Sons.

JEWELRY, GEM-CUTTING AND METAL-CRAFT, by W. T. Baxter.

THE STORY OF THE GEMS, by Herbert P. Whitlock.

REVISED LAPIDARY HANDBOOK, by J. Harry Howard, 1946

THE ART OF GEM-CUTTING, by H. C. Dake and Richard M. Pearl, 1945, Mineralogist Publishing Co., Portland, Oregon.

MINERALOGIST MAGAZINE (a monthly publication), 329 S. E. 32nd Ave., Portland, Oregon.

CURIOUS LORE OF PRECIOUS STONES, by G. F. Kunz, J. B. Lippincott & Co.

MAGIC OF JEWELS AND CHARMS, by G. F. Kunz, J. B. Lippincott & Co.

THE MAGIC AND SCIENCE OF JEWELS AND STONES, by I. Kozminsky, G. P. Putnam's Sons.

5000 YEARS OF GEMS AND JEWELRY, Frances Rogers and Alice Beard, 1947, J. B. Lippincott & Co.

ADVENTURE IN JADE, James L. Kraft, Henry Holt & Co.

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